

FCC TEST REPORT

FCC ID : ULZ-TXV001
Equipment : TPMS
Brand Name : MORE SENSOR
Model Name : TX-V001 、TX-V002
Applicant : MOBILETRON ELECTRONICS CO., LTD.
85, Sec.4, Chung-Ching Rd., Ta-Ya
District, Taichung 428, Taiwan
Manufacturer : MOBILETRON ELECTRONICS CO., LTD.
85, Sec.4, Chung-Ching Rd., Ta-Ya
District, Taichung 428, Taiwan
Standard : 47 CFR FCC Part 15.231

The product was received on Apr. 13, 2021, and testing was started from May 17, 2021 and completed on Jun. 16, 2021. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Hsinhua Laboratory, the test report shall not be reproduced except in full.



Approved by: Allen Lin

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)

Table of Contents

1	GENERAL DESCRIPTION	5
1.1	Information.....	5
1.2	Testing Applied Standards	6
1.3	Testing Location Information	6
1.4	Measurement Uncertainty	7
2	TEST CONFIGURATION OF EUT.....	8
2.1	Test Condition	8
2.2	The Worst Case Modulation Configuration	8
2.3	The Worst Case Measurement Configuration	8
2.4	Accessories	9
2.5	Test Setup Diagram	9
3	TRANSMITTER TEST RESULT	10
3.1	Emission Bandwidth	10
3.2	Fundamental Emissions	14
3.3	Transmitter Radiated Unwanted Emissions	19
3.4	Operation Restriction.....	64
4	TEST EQUIPMENT AND CALIBRATION DATA.....	69

APPENDIX A. TEST PHOTOS

PHOTOGRAPHS OF EUT v01



TEL : 886-3-327-3456
FAX : 886-3-327-0973
Report Template No.: HE1-C7 Ver3.0

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
-	15.207	AC Power-line Conducted Emissions	Not Required	Only employ battery power.
3.1	15.231(c)	Emission Bandwidth	PASS	-
3.2	15.231(e)	Fundamental Emissions	PASS	-
3.3	15.231(e)	Transmitter Radiated Unwanted Emissions	PASS	-
3.4	15.231(a)/(e)	Operation Restriction	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

None.

Reviewed by: Sam Tsai

Report Producer: Debby Hung

1 General Description

1.1 Information

1.1.1 RF General Information

RF General Information				
Frequency Range(MHz)	Modulation	Ch. Frequency (MHz)	Channel Number	Fundamental Field Strength (dBuV/m)
315	ASK	315.03	1	56.73
	FSK	314.97		62.06
433.05 - 434.79	ASK	433.95	1	61.33
	FSK	433.89		66.46
Note 1: Field strength performed average level at 3m.				

1.1.2 Antenna Information

Antenna General Information					
No.	Brand	Model	Ant. Type	Connector	Gain (dBm)
1	Mobiletron	20010876	Loop	N/A	-10

1.1.3 Type of EUT

Operational Condition	
EUT Power Type	From Battery
Type of EUT	
☒	Stand-alone
☐	Combined (EUT where the radio part is fully integrated within another device)
☐	Combined Equipment - Brand Name / Model No.: ...
☐	Plug-in radio (EUT intended for a variety of host systems)
☐	Host System - Brand Name / Model No.: ...
☐	Other:

1.1.4 Test Signal Duty Cycle

Operated Mode for Worst Duty Cycle		
☐ Operated normal mode for worst duty cycle		
☒ Operated test mode for worst duty cycle		
Mode	Test Signal Duty Cycle (x)	Duty Cycle Correction Factor [dB] – (20 log x)
315MHz-ASK	22.5%	12.95
315MHz-FSK	44.9%	6.95
433MHz-ASK	21.0%	13.55
433MHz-FSK	39.6%	8.04

1.1.5 Table for Multiple Listing

The brand/model names in the following table are all refer to the identical product.

Brand Name	Model Name	Description
MORE SENSOR	TX-V001	All the models are identical, the only difference is the diameter of valve.
	TX-V002	

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013

The following reference test guidance is not within the scope of accreditation of TAF:

- ♦ KDB 414788 D01 v01r01

1.3 Testing Location Information

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
☒ Hsinhua (TAF: 3785)	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
	TEL: 886-3-327-3456		FAX: 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-HY	Barry	25.1~25.8°C / 56~62%	24/May/2021~16/Jun/2021
☒ Wen 33rd.St. (TAF: 3785)	ADD: No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)			
	TEL: 886-3-318-0787		FAX: 886-3-318-0287	
Test site Designation No. TW0008 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Radiated	03CH09-HY	Daniel	23.8~24.1°C / 58~61%	17/May/2021~19/May/2021

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	0.9 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	2.4 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.0 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Condition

Condition Item	Abbreviation/Remark	Remark
Tnom Vnom	Tnom	20°C
-	Vnom	3V

2.2 The Worst Case Modulation Configuration

Modulation Used for Conformance Testing		
Mode	Field Strength (dBuV/m at3m)	Test Channel Frequencies (MHz)
Wireless transmit	56.73	315.03
Wireless transmit	62.06	314.97
Wireless transmit	61.33	433.95
Wireless transmit	66.46	433.89

2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emission Bandwidth, Fundamental Emissions, Radiated Unwanted Emissions		
Test Condition	Radiated measurement		
User Position	☐ EUT will be placed in fixed position.		
	☒ EUT will be placed in mobile position and operating multiple positions.		
	☐ EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions.		
Operating Mode	CTX		
	☒ Battery mode		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT	V (433MHz)	V (315MHz)	

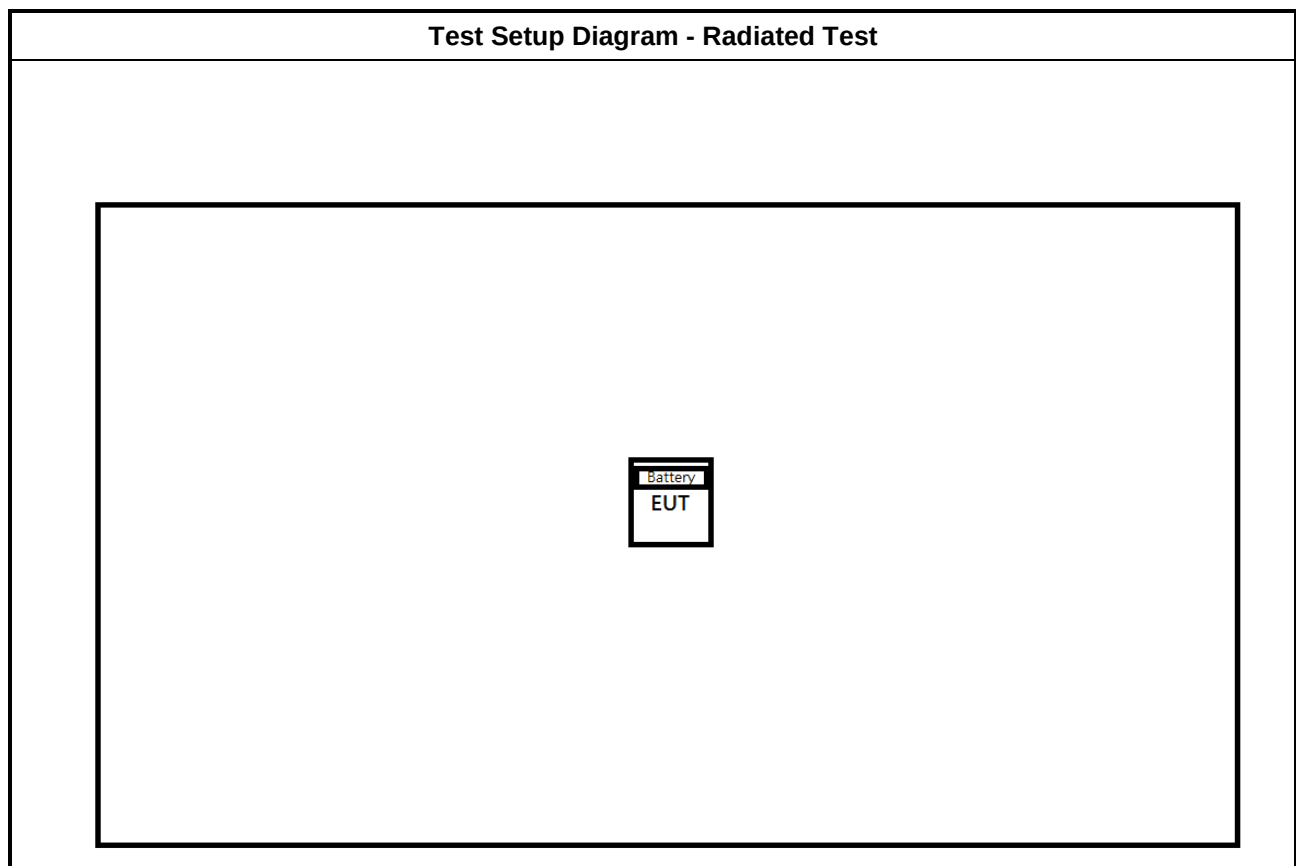
The Worst Case Mode for Following Conformance Tests	
Tests Item	Operation Restriction (silent time and operated time)
Test Condition	Conducted measurement
Test Mode	Operated normally mode for worst duty cycle condition.

2.4 Accessories

Accessories Information				
Battery	Brand Name	Murata	Model Name	CR2050
	Manufacturer	Murata	SN	9734186
	Power Rating	3 Vdc, 345mAh	Type	Li-ion, <u>Yes</u>

Reminder: Regarding to more detail and other information, please refer to user manual.

2.5 Test Setup Diagram



3 Transmitter Test Result

3.1 Emission Bandwidth

3.1.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
☒	Emission bandwidth falls completely within authorized band.
☒	$F_c(70\sim 900\text{MHz}): BW \leq f_c \times 0.25\%$
☐	$F_c(>900\text{MHz}): BW \leq f_c \times 0.5\%$

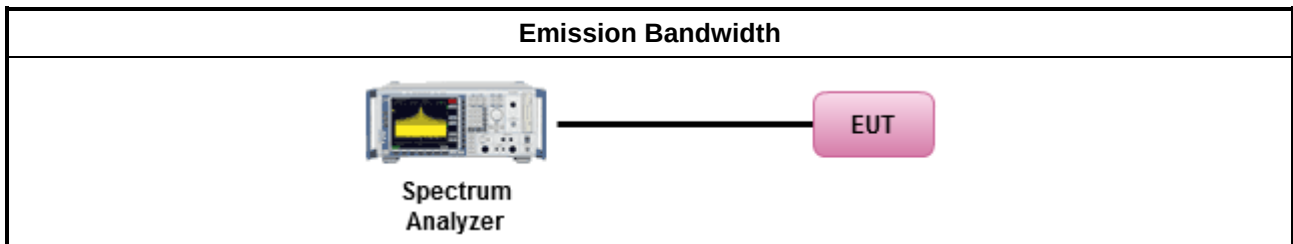
3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method	
☒	Refer as ANSI C63.10, clause 6.9.3 for 20 dB emission bandwidth and 99% occupied bandwidth measurement.

3.1.4 Test Setup



3.1.5 Test Result of Emission Bandwidth

Summary

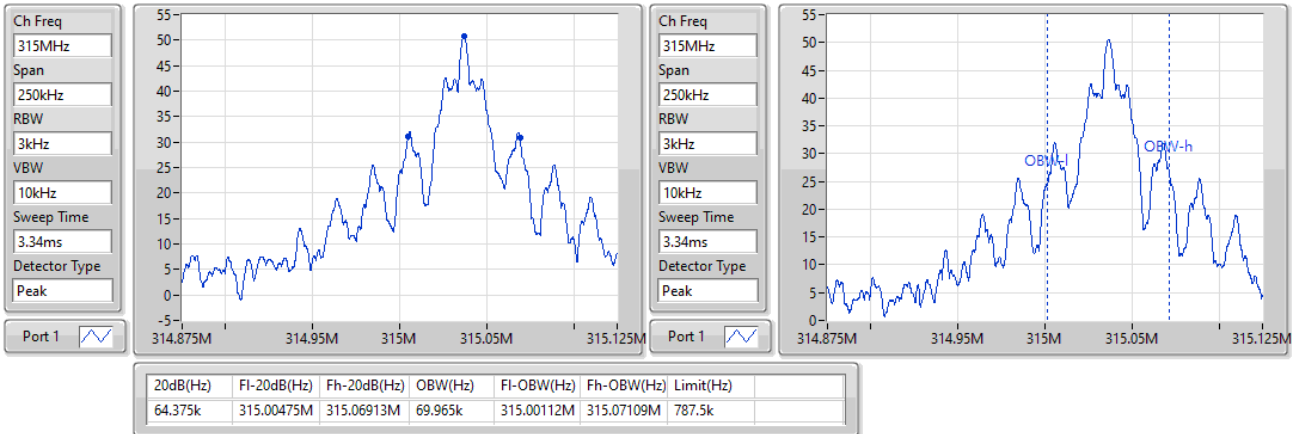
Mode	20dB	OBW
	(Hz)	(Hz)
315M	-	-
ASK_Nss1_1TX	64.375k	69.965k
FSK_Nss1_1TX	128.1k	124.438k
433.92M	-	-
ASK_Nss1_1TX	65.1k	187.506k
FSK_Nss1_1TX	108.15k	158.821k

Result

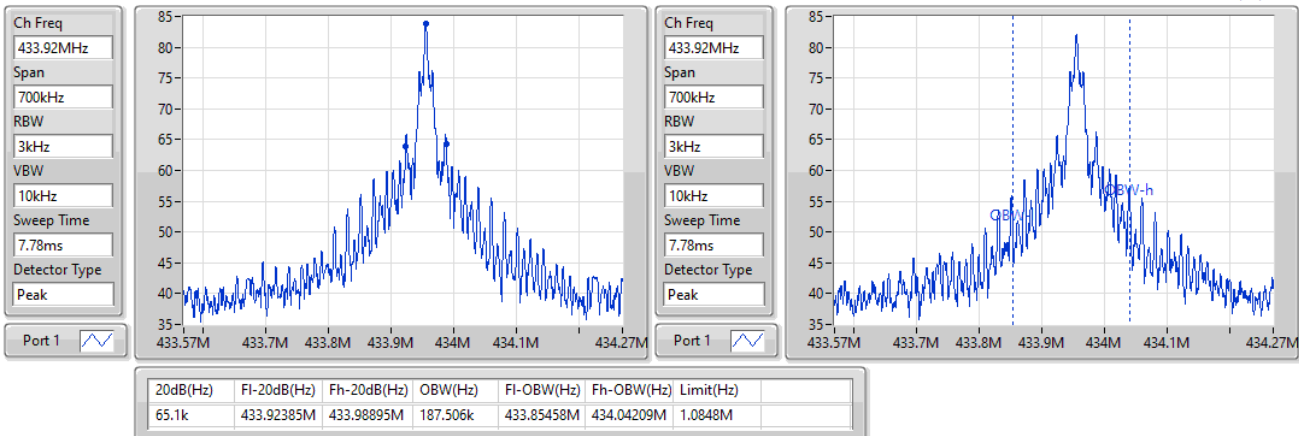
Mode	Result	20dB (Hz)	FI-20dB (Hz)	Fh-20dB (Hz)	OBW (Hz)	FI-OBW (Hz)	Fh-OBW (Hz)	Limit (Hz)
ASK_Nss1_1TX	-	-	-	-	-	-	-	-
315MHz_TnomVnom	Pass	64.375k	315.00475M	315.06913M	69.965k	315.00112M	315.07109M	787.5k
433.92MHz_TnomVnom	Pass	65.1k	433.92385M	433.98895M	187.506k	433.85458M	434.04209M	1.0848M
FSK_Nss1_1TX	-	-	-	-	-	-	-	-
315MHz_TnomVnom	Pass	128.1k	314.93640M	315.06450M	124.438k	314.93793M	315.06237M	787.5k
433.92MHz_TnomVnom	Pass	108.15k	433.86610M	433.97425M	158.821k	433.83709M	433.99591M	1.0848M

ASK_Nss1_1TX
EBW
315MHz_TnomVnom

24/05/2021

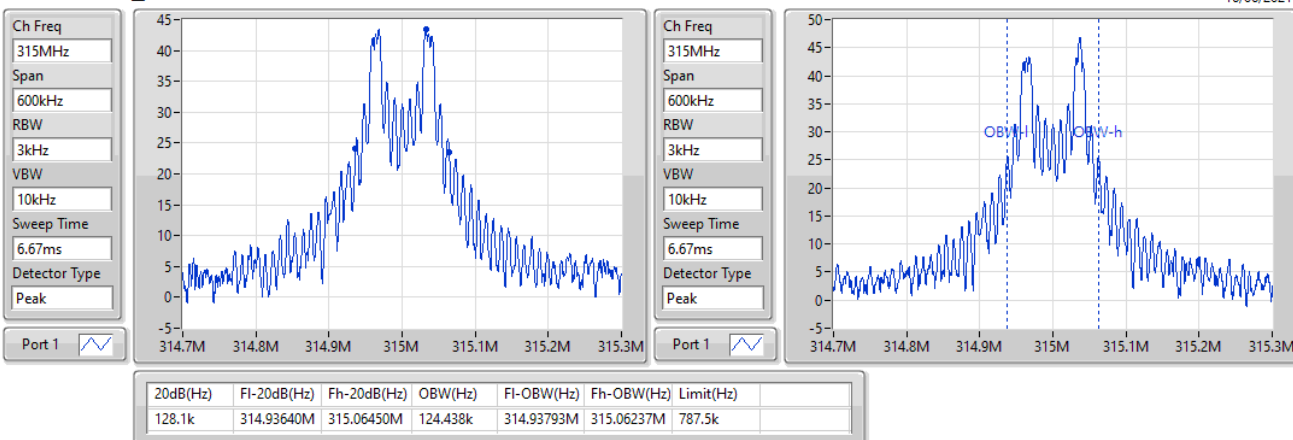

ASK_Nss1_1TX
EBW
433.92MHz_TnomVnom

16/06/2021

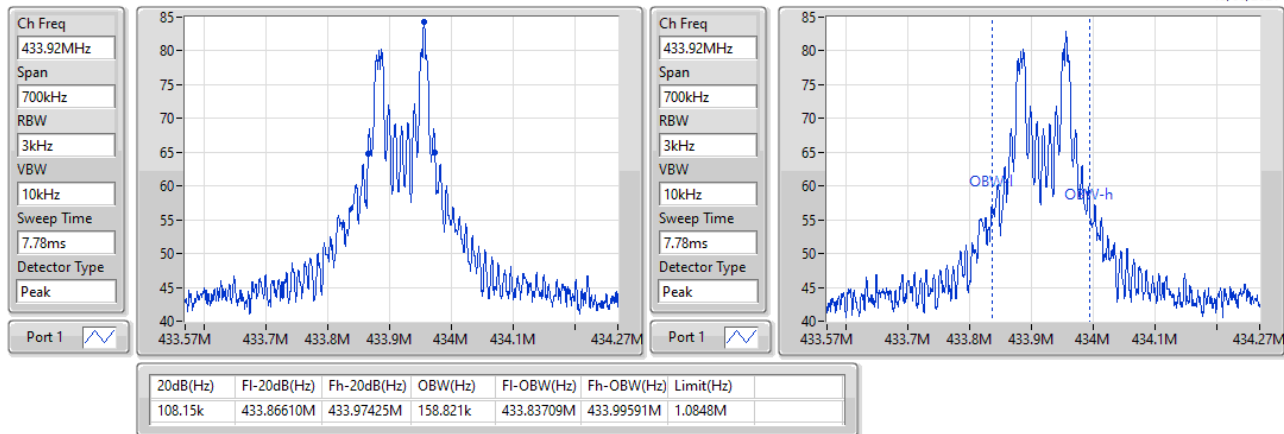


FSK_Nss1_1TX
EBW
315MHz_TnomVnom

16/06/2021


FSK_Nss1_1TX
EBW
433.92MHz_TnomVnom

15/06/2021



3.2 Fundamental Emissions

3.2.1 Fundamental Emissions Limit

For manually operated within 5 sec, activated automatically within 5 sec, periodic transmissions		
Frequency Band (MHz)	Fundamental Limit (uV/m) at 3m	Fundamental Limit (dBuV/m) at 3m
40.66-40.70	2250	67
70-130	1250	61.9
130-174	1250-3750(**)	61.9-71.5
174-260	3750	71.5
260-470	3750-12500(**)	71.5-81.9
Above 470	12500	81.9
**1. Linear interpolations. Based on the average value of the measured emissions.		

For periodic transmissions (lower field strength)		
Frequency Band (MHz)	Fundamental Limit (uV/m) at 3m	Fundamental Limit (dBuV/m) at 3m
40.66-40.70	1000	60
70-130	500	54
130-174	500-1500(**)	54-63.5
174-260	1500	63.5
260-470	1500-5000(**)	63.5-74
Above 470	5000	74
** 1. Linear interpolations. Based on the average value of the measured emissions.		

3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

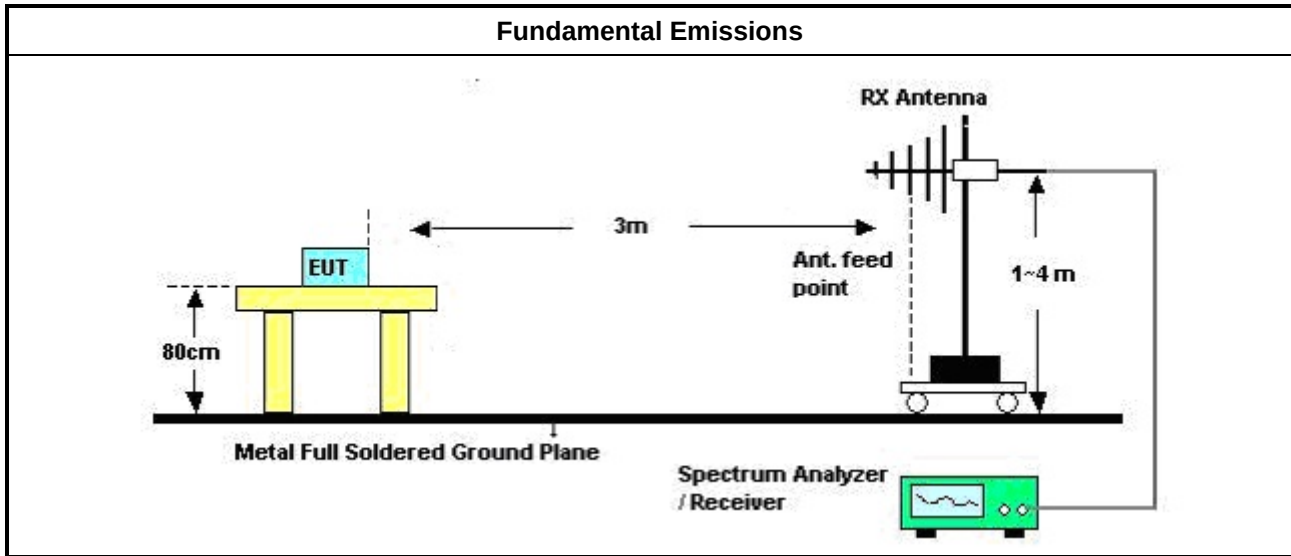
☒	For the transmitter emissions shall be measured using following options below:
☐	Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW) – Duty cycle $\geq$ 100%.
☒	Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. Adjusted by a “duty cycle correction factor”, derived from $20\log(\text{dwell time}/100 \text{ ms})$. Average emission = peak emission + 20 log (duty cycle).
☒	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
☒	For radiated measurement, refer as ANSI C63.10, clause 6.5 for radiated emissions

3.2.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamplifier Factor)

3.2.5 Test Setup

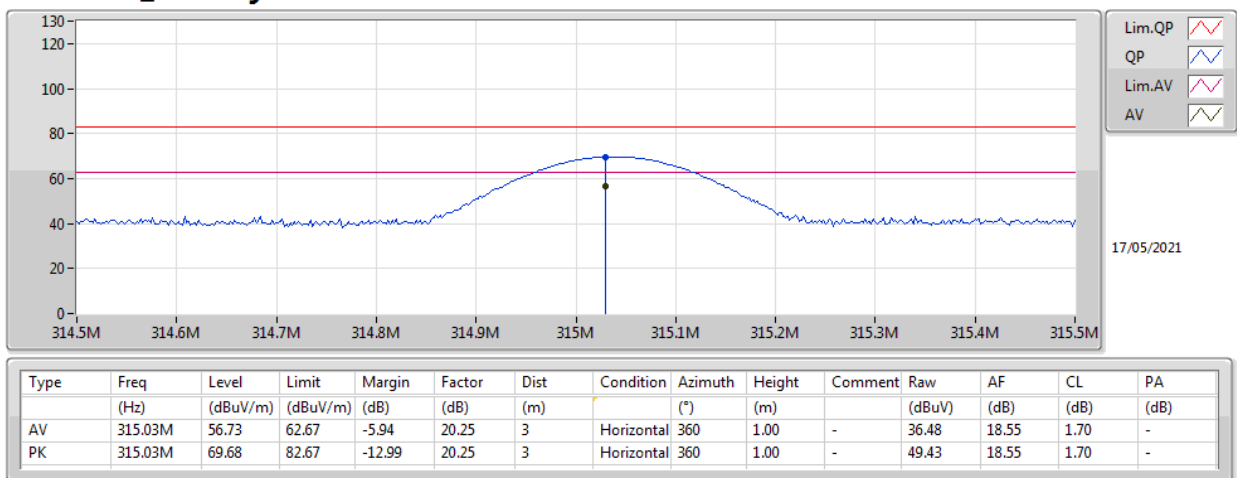


3.2.6 Test Result of Fundamental Emissions- 315MHz

Field Strength of Fundamental Emissions Result					
Modulation Mode	Frequency (MHz)	Fundamental (dBuV/m)@3m	Margin (dB)	Limit (dBuV/m)@3m	Type
ASK	315.03	56.73	5.94	62.67	Average
ASK	315.03	69.68	12.99	82.67	Peak
Result		Complied			
Note 1: Measurement worst emissions of receive antenna polarization: Horizontal.					
Note 2: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).					

ASK_Nss1_1TX

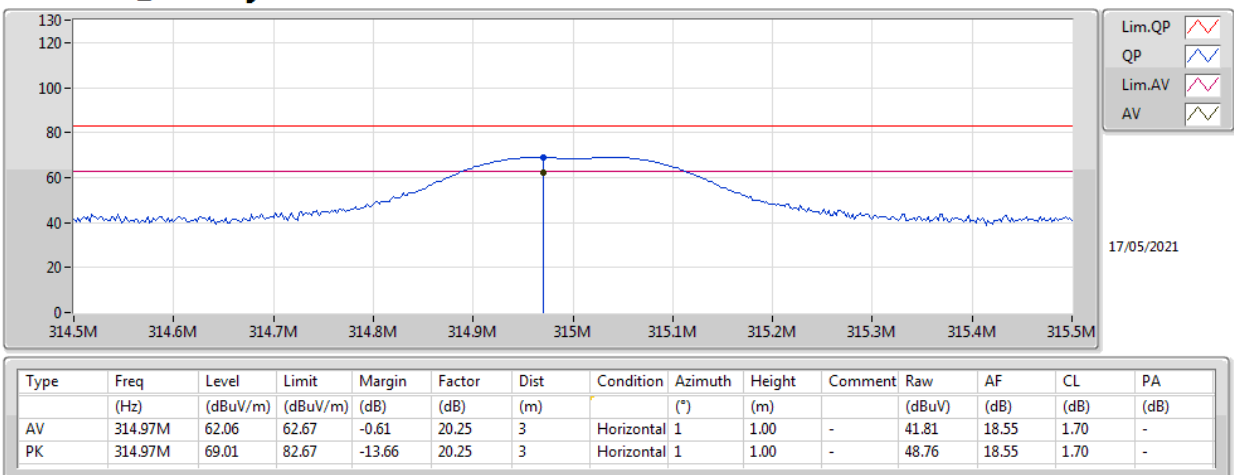
315MHz_Battery



Field Strength of Fundamental Emissions Result					
Modulation Mode	Frequency (MHz)	Fundamental (dBuV/m)@3m	Margin (dB)	Limit (dBuV/m)@3m	Type
FSK	314.97	62.06	0.61	62.67	Average
FSK	314.97	69.01	13.66	82.67	Peak
Result		Complied			
Note 1: Measurement worst emissions of receive antenna polarization: Horizontal.					
Note 2: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).					

FSK_Nss1_1TX

315MHz_Battery

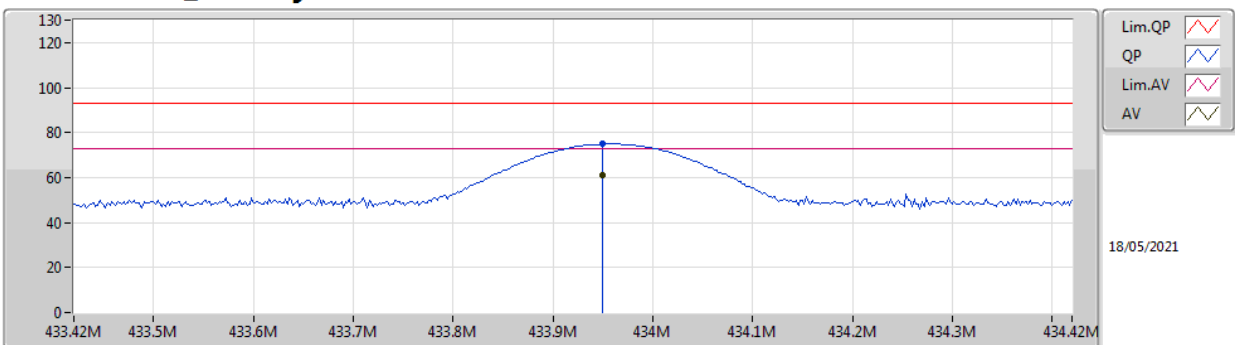


3.2.7 Test Result of Fundamental Emissions - 433MHz

Field Strength of Fundamental Emissions Result					
Modulation Mode	Frequency (MHz)	Fundamental (dBuV/m)@3m	Margin (dB)	Limit (dBuV/m)@3m	Type
ASK	433.95	61.33	11.54	72.87	Average
ASK	433.95	74.88	17.99	92.87	Peak
Result		Complied			
Note 1: Measurement worst emissions of receive antenna polarization: Vertical.					
Note 2: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).					

ASK_Nss1_1TX

433.92MHz_Battery

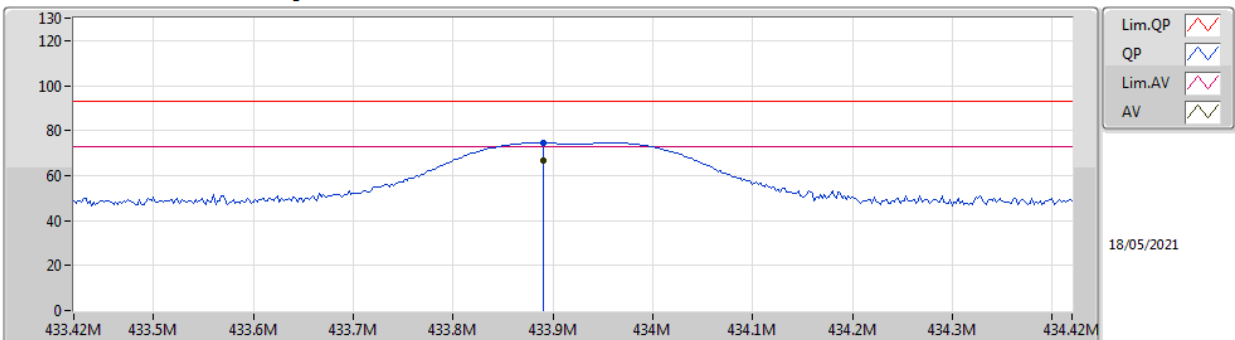


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	433.95M	61.33	72.87	-11.54	24.22	3	Vertical	37	1.28	-	37.11	22.18	2.04	-
PK	433.95M	74.88	92.87	-17.99	24.22	3	Vertical	37	1.28	-	50.66	22.18	2.04	-

Field Strength of Fundamental Emissions Result					
Modulation Mode	Frequency (MHz)	Fundamental (dBuV/m)@3m	Margin (dB)	Limit (dBuV/m)@3m	Type
FSK	433.89	66.46	6.41	72.87	Average
FSK	433.89	74.50	18.37	92.87	Peak
Result		Complied			
Note 1: Measurement worst emissions of receive antenna polarization: Vertical.					
Note 2: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).					

FSK_Nss1_1TX

433.92MHz_Battery



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	433.89M	66.46	72.87	-6.41	24.22	3	Vertical	37	1.25	-	42.24	22.18	2.04	-
PK	433.89M	74.50	92.87	-18.37	24.22	3	Vertical	37	1.25	-	50.28	22.18	2.04	-

3.3 Transmitter Radiated Unwanted Emissions

3.3.1 Transmitter Radiated Unwanted Emissions Limit

For manually operated within 5 sec, activated automatically within 5 sec, periodic transmissions		
Unwanted emissions limit follow this table or the general limits FCC 15.209, whichever limit permits higher field strength.		
Frequency Band (MHz)	Spurious Limit (uV/m) at 3m	Spurious Limit (dBuV/m) at 3m
40.66-40.70	225	47
70-130	125	41.9
130-174	125-375(**)	41.9-51.5
174-260	375	51.5
260-470	375-1250(**)	51.5-61.9
Above 470	1250	61.9
**1. Linear interpolations. Based on the average value of the measured emissions.		

For periodic transmissions (lower field strength)		
Unwanted emissions limit follow this table or the general limits FCC 15.209, whichever limit permits higher field strength.		
Frequency Band (MHz)	Spurious Limit (uV/m) at 3m	Spurious Limit (dBuV/m) at 3m
40.66-40.70	100	40
70-130	50	34
130-174	50-150(**)	34-43.5
174-260	150	43.5
260-470	150-500(**)	43.5-54
Above 470	500	54
** 1. Linear interpolations Based on the average value of the measured emissions.		

3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method – General Information	
☒	The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].
☐	Refer as ANSI C63.10, clause 6.10.3 bandedge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
☒	For the transmitter unwanted emissions shall be measured using following options below:
☐	Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW) – Duty cycle $\geq$ 100%.
☒	Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. Adjusted by a “duty cycle correction factor”, derived from $20\log$ (dwell time/100 ms). Average emission = peak emission + 20 log (duty cycle).
☒	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
☒	For the transmitter bandedge emissions shall be measured using following options below:
☒	Refer as ANSI C63.10, clause 6.10 for band-edge testing.
☐	Refer as ANSI C63.10, clause 6.10.6.2 for marker-delta method for band-edge measurements.
☒	For radiated measurement.
☒	Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
☒	Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
☒	Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1 GHz and test distance is 3m.
☒	The any unwanted emissions level shall not exceed the fundamental emission level.
☒	All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.
☐	KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.
☐	- Based on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in regulations; however, an attempt should be made to avoid making measurements in the near field. - Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

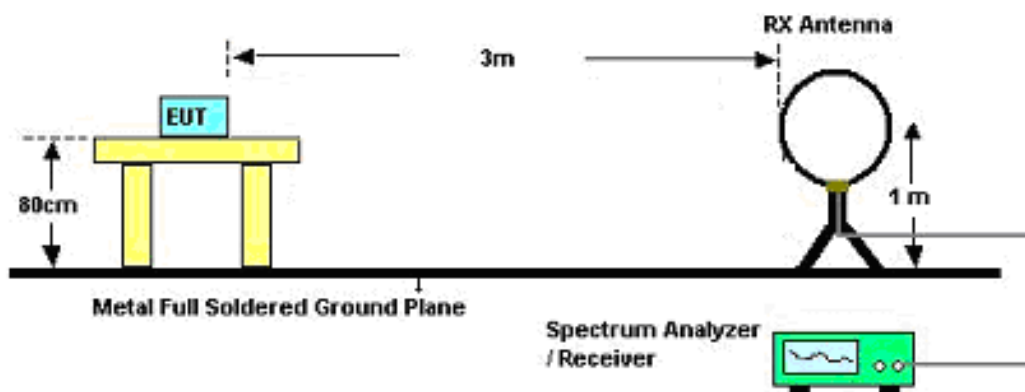
3.3.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamplifier Factor)

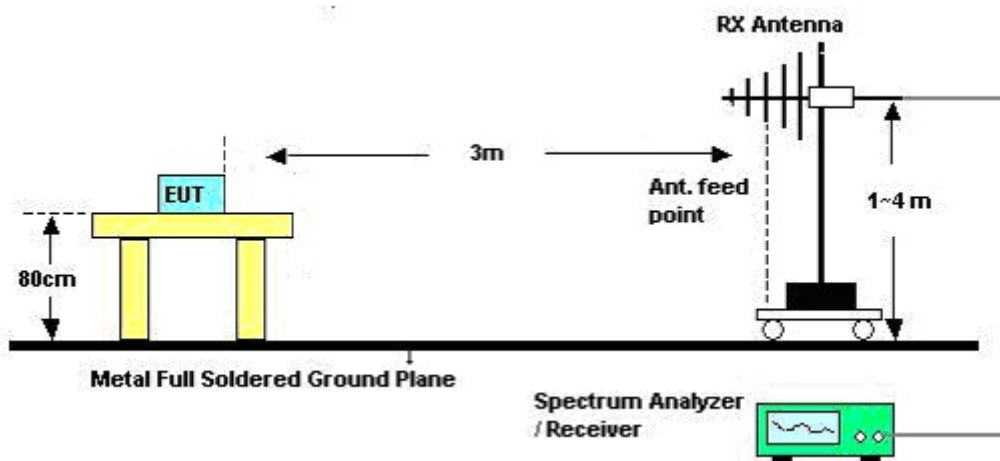
3.3.5 Test Setup

Transmitter Spurious and Out of Band Emissions (9 kHz - 30 MHz)

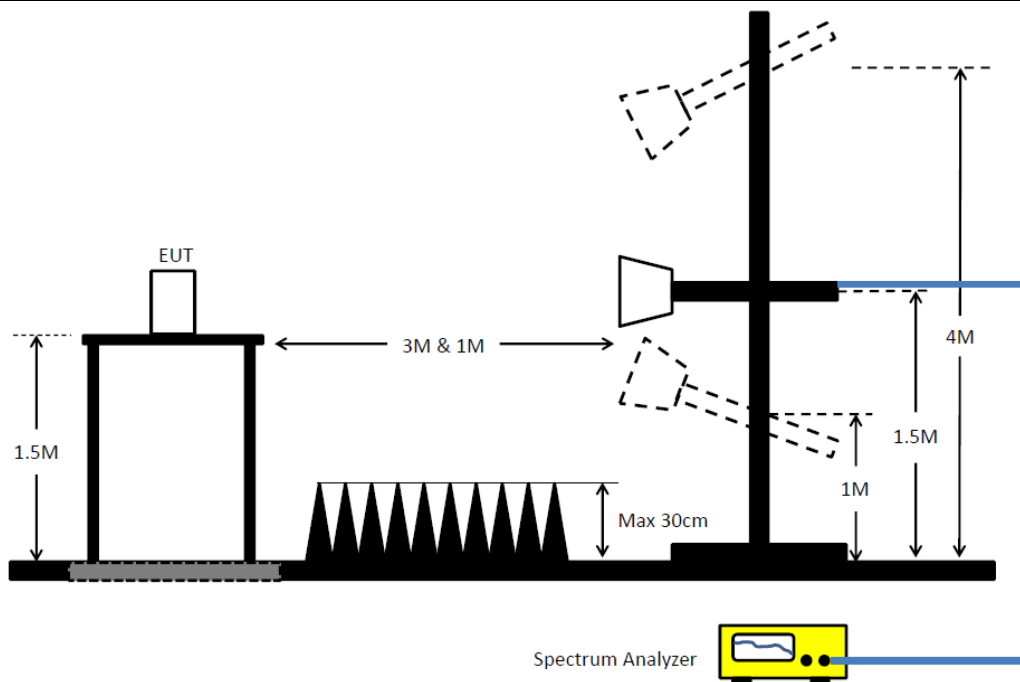


Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna.

Transmitter Radiated Unwanted Emissions (below 1GHz)



Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna.

Transmitter Radiated Unwanted Emissions (Above 1GHz)


Electric field tests shall be performed in the frequency range of 1 GHz to 10th harmonic of highest fundamental frequency or 40 GHz using a calibrated horn antenna.

3.3.6 Transmitter Radiated Unwanted Emissions (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

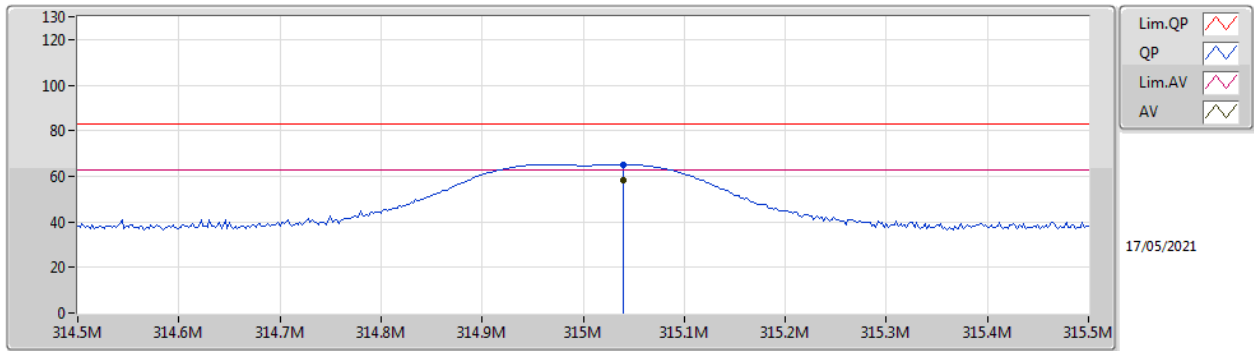
3.3.7 Transmitter Radiated Unwanted Emissions (Below 1GHz)_315M

Summary

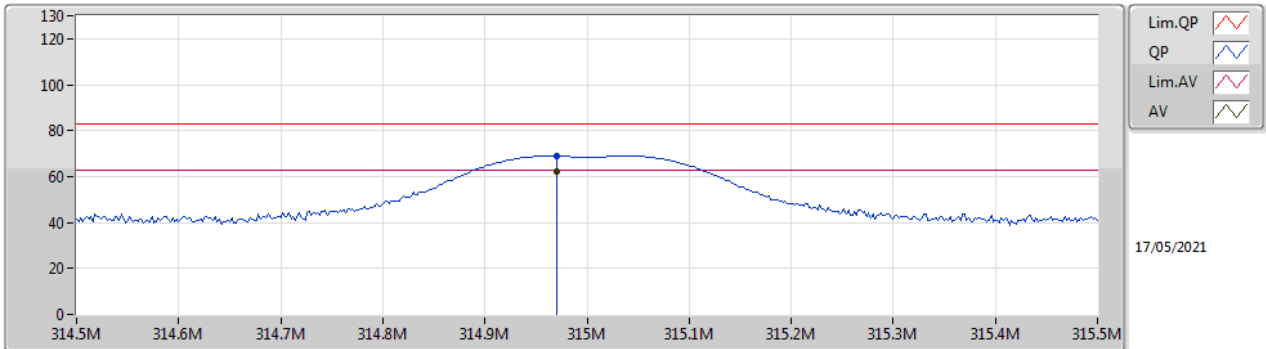
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
315MHz	-	-	-	-	-	-	-	-	-	-	-
FSK_Nss1_1TX	Pass	AV	314.97M	62.06	62.67	-0.61	3	Horizontal	1	1.00	-
ASK_Nss1_1TX	Pass	AV	315.03M	56.73	62.67	-5.94	3	Horizontal	360	1.00	-

Result

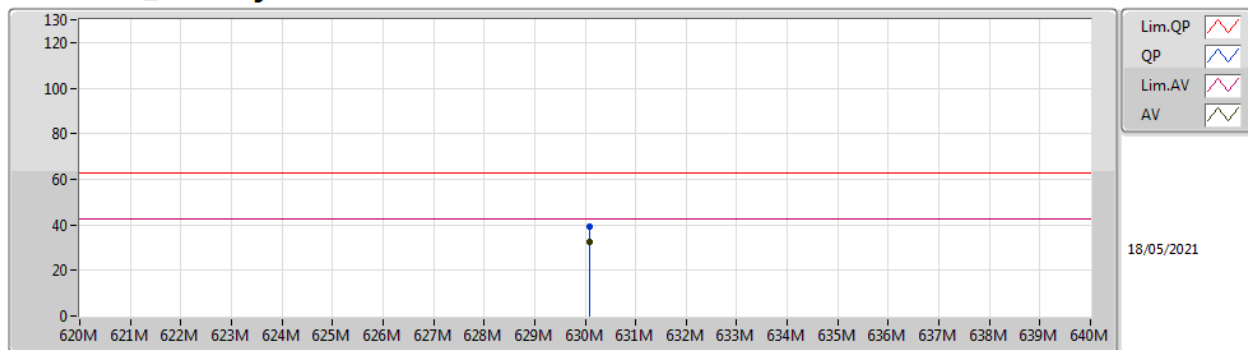
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
FSK_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
315MHz	Pass	AV	315.04M	58.29	62.67	-4.38	3	Vertical	260	1.90	-
315MHz	Pass	PK	315.04M	65.24	82.67	-17.43	3	Vertical	260	1.90	-
315MHz	Pass	AV	314.97M	62.06	62.67	-0.61	3	Horizontal	1	1.00	-
315MHz	Pass	PK	314.97M	69.01	82.67	-13.66	3	Horizontal	1	1.00	-
315MHz	Pass	AV	630.08M	32.53	42.67	-10.14	3	Vertical	101	1.00	-
315MHz	Pass	PK	630.08M	39.48	62.67	-23.19	3	Vertical	101	1.00	-
315MHz	Pass	AV	630.08M	24.89	42.67	-17.78	3	Horizontal	122	1.22	-
315MHz	Pass	PK	630.08M	31.84	62.67	-30.83	3	Horizontal	122	1.22	-
315MHz	Pass	PK	30M	21.22	40.00	-18.78	3	Vertical	360	1.00	-
315MHz	Pass	PK	57.16M	23.08	40.00	-16.92	3	Vertical	360	1.00	-
315MHz	Pass	PK	115.36M	19.85	43.50	-23.65	3	Vertical	360	1.00	-
315MHz	Pass	PK	439.34M	20.96	46.00	-25.04	3	Vertical	360	1.00	-
315MHz	Pass	PK	580.96M	24.34	46.00	-21.66	3	Vertical	360	1.00	-
315MHz	Pass	PK	728.4M	26.13	46.00	-19.87	3	Vertical	360	1.00	-
315MHz	Pass	PK	30M	20.13	40.00	-19.87	3	Horizontal	0	1.00	-
315MHz	Pass	PK	119.24M	15.18	43.50	-28.32	3	Horizontal	0	1.00	-
315MHz	Pass	PK	262.8M	16.88	46.00	-29.12	3	Horizontal	0	1.00	-
315MHz	Pass	PK	340.4M	20.39	46.00	-25.61	3	Horizontal	0	1.00	-
315MHz	Pass	PK	499.48M	22.29	46.00	-23.71	3	Horizontal	0	1.00	-
315MHz	Pass	PK	734.22M	26.85	46.00	-19.15	3	Horizontal	0	1.00	-
ASK_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
315MHz	Pass	AV	315.04M	52.92	62.67	-9.75	3	Vertical	250	1.72	-
315MHz	Pass	PK	315.04M	65.87	82.67	-16.80	3	Vertical	250	1.72	-
315MHz	Pass	AV	315.03M	56.73	62.67	-5.94	3	Horizontal	360	1.00	-
315MHz	Pass	PK	315.03M	69.68	82.67	-12.99	3	Horizontal	360	1.00	-
315MHz	Pass	AV	630.09M	12.87	42.67	-29.80	3	Vertical	113	1.00	-
315MHz	Pass	PK	630.09M	39.03	62.67	-23.64	3	Vertical	113	1.00	-
315MHz	Pass	AV	630.09M	17.75	42.67	-24.92	3	Horizontal	126	2.38	-
315MHz	Pass	PK	630.1M	30.70	62.67	-31.97	3	Horizontal	126	2.38	-
315MHz	Pass	PK	30M	21.85	40.00	-18.15	3	Vertical	360	1.00	-
315MHz	Pass	PK	57.16M	23.07	40.00	-16.93	3	Vertical	360	1.00	-
315MHz	Pass	PK	119.24M	21.77	43.50	-21.73	3	Vertical	360	1.00	-
315MHz	Pass	PK	386.96M	19.79	46.00	-26.21	3	Vertical	360	1.00	-
315MHz	Pass	PK	582.9M	24.56	46.00	-21.44	3	Vertical	360	1.00	-
315MHz	Pass	PK	776.9M	31.00	46.00	-15.00	3	Vertical	360	1.00	-
315MHz	Pass	PK	30M	20.76	40.00	-19.24	3	Horizontal	0	1.00	-
315MHz	Pass	PK	107.6M	14.63	43.50	-28.87	3	Horizontal	0	1.00	-
315MHz	Pass	PK	258.92M	16.89	46.00	-29.11	3	Horizontal	0	1.00	-
315MHz	Pass	PK	470.38M	22.43	46.00	-23.57	3	Horizontal	0	1.00	-
315MHz	Pass	PK	567.38M	24.87	46.00	-21.13	3	Horizontal	0	1.00	-
315MHz	Pass	PK	730.34M	26.34	46.00	-19.66	3	Horizontal	0	1.00	-

FSK_Nss1_1TX
315MHz_Battery


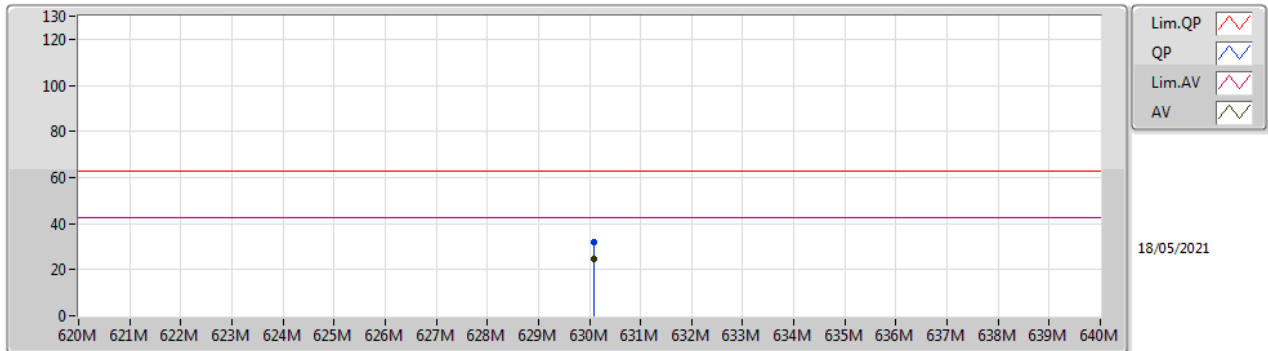
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	315.04M	58.29	62.67	-4.38	20.25	3	Vertical	260	1.90	-	38.04	18.55	1.70	-
PK	315.04M	65.24	82.67	-17.43	20.25	3	Vertical	260	1.90	-	44.99	18.55	1.70	-

FSK_Nss1_1TX
315MHz_Battery


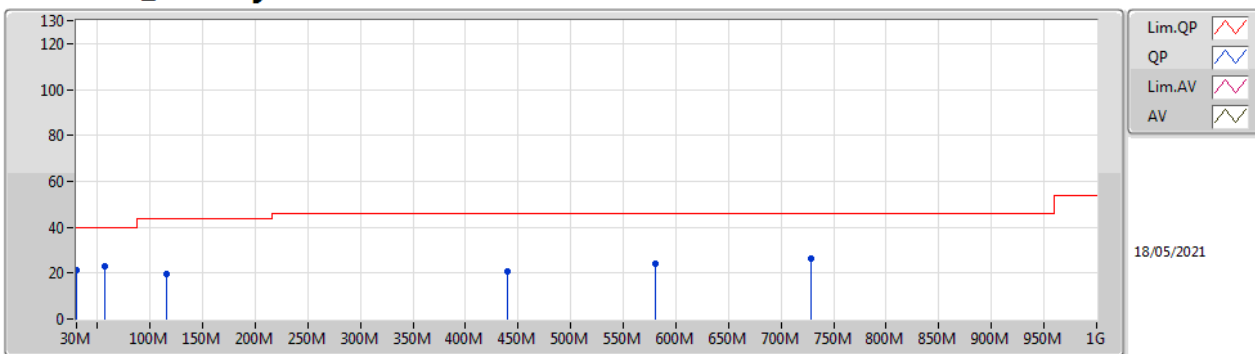
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	314.97M	62.06	62.67	-0.61	20.25	3	Horizontal	1	1.00	-	41.81	18.55	1.70	-
PK	314.97M	69.01	82.67	-13.66	20.25	3	Horizontal	1	1.00	-	48.76	18.55	1.70	-

FSK_Nss1_1TX
315MHz_Battery


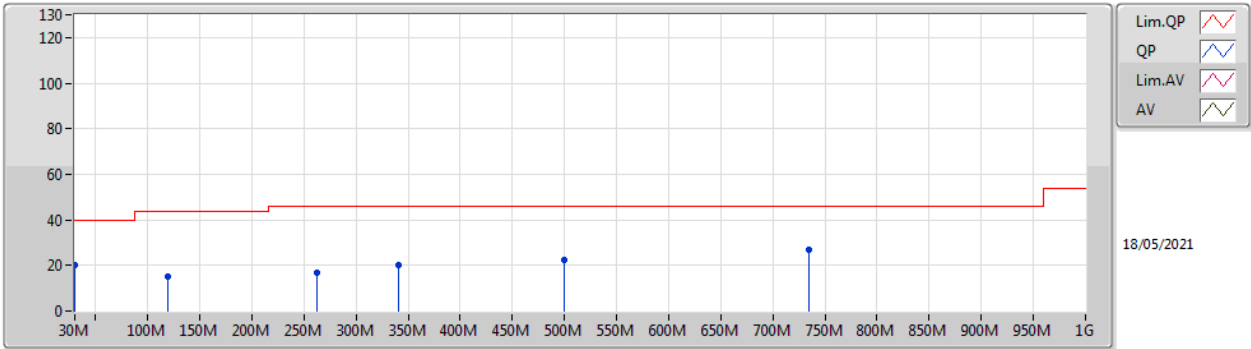
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	630.08M	32.53	42.67	-10.14	-9.13	3	Vertical	101	1.00	-	41.66	25.51	2.56	37.20
PK	630.08M	39.48	62.67	-23.19	-9.13	3	Vertical	101	1.00	-	48.61	25.51	2.56	37.20

FSK_Nss1_1TX
315MHz_Battery


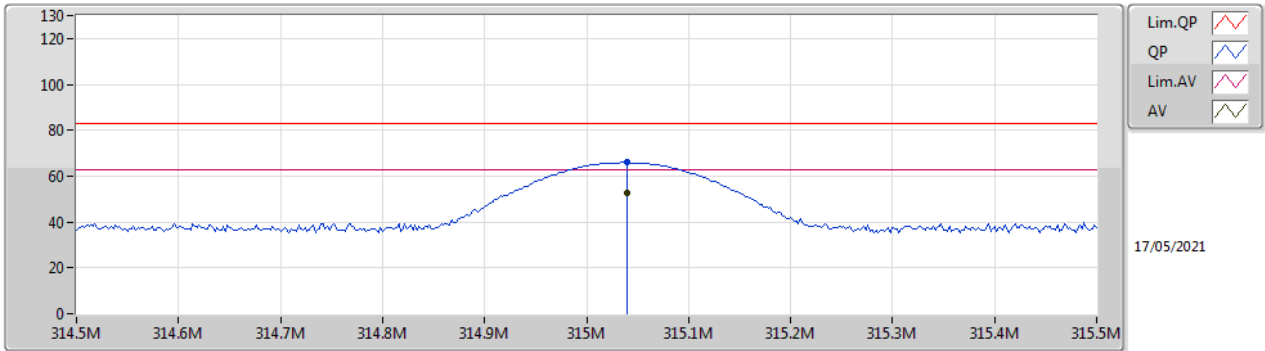
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	630.08M	24.89	42.67	-17.78	-9.13	3	Horizontal	122	1.22	-	34.02	25.51	2.56	37.20
PK	630.08M	31.84	62.67	-30.83	-9.13	3	Horizontal	122	1.22	-	40.97	25.51	2.56	37.20

FSK_Nss1_1TX
315MHz_Battery


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	30M	21.22	40.00	-18.78	-13.08	3	Vertical	360	1.00	-	34.30	23.51	0.56	37.15
PK	57.16M	23.08	40.00	-16.92	-25.12	3	Vertical	360	1.00	-	48.20	11.14	0.83	37.09
PK	115.36M	19.85	43.50	-23.65	-19.01	3	Vertical	360	1.00	-	38.86	16.61	1.05	36.67
PK	439.34M	20.96	46.00	-25.04	-12.30	3	Vertical	360	1.00	-	33.26	22.25	2.06	36.61
PK	580.96M	24.34	46.00	-21.66	-9.75	3	Vertical	360	1.00	-	34.09	24.91	2.44	37.10
PK	728.4M	26.13	46.00	-19.87	-7.99	3	Vertical	360	1.00	-	34.12	26.74	2.74	37.47

FSK_Nss1_1TX
315MHz_Battery


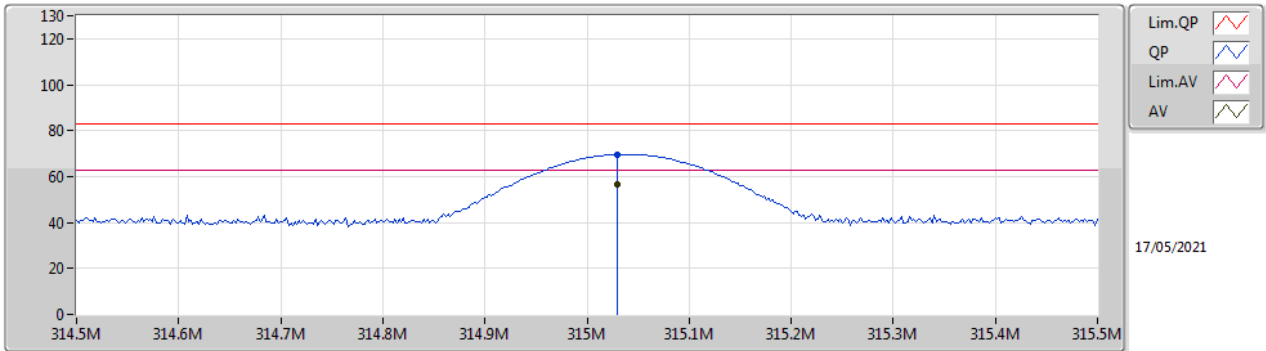
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	30M	20.13	40.00	-19.87	-13.08	3	Horizontal	0	1.00	-	33.21	23.51	0.56	37.15
PK	119.24M	15.18	43.50	-28.32	-18.91	3	Horizontal	0	1.00	-	34.09	16.69	1.08	36.68
PK	262.8M	16.88	46.00	-29.12	-15.75	3	Horizontal	0	1.00	-	32.63	19.11	1.54	36.40
PK	340.4M	20.39	46.00	-25.61	-15.42	3	Horizontal	0	1.00	-	35.81	19.34	1.75	36.51
PK	499.48M	22.29	46.00	-23.71	-11.51	3	Horizontal	0	1.00	-	33.80	23.25	2.23	36.99
PK	734.22M	26.85	46.00	-19.15	-7.75	3	Horizontal	0	1.00	-	34.60	27.00	2.76	37.51

ASK_Nss1_1TX
315MHz_Battery


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	315.04M	52.92	62.67	-9.75	20.25	3	Vertical	250	1.72	-	32.67	18.55	1.70	-
PK	315.04M	65.87	82.67	-16.80	20.25	3	Vertical	250	1.72	-	45.62	18.55	1.70	-

ASK_Nss1_1TX

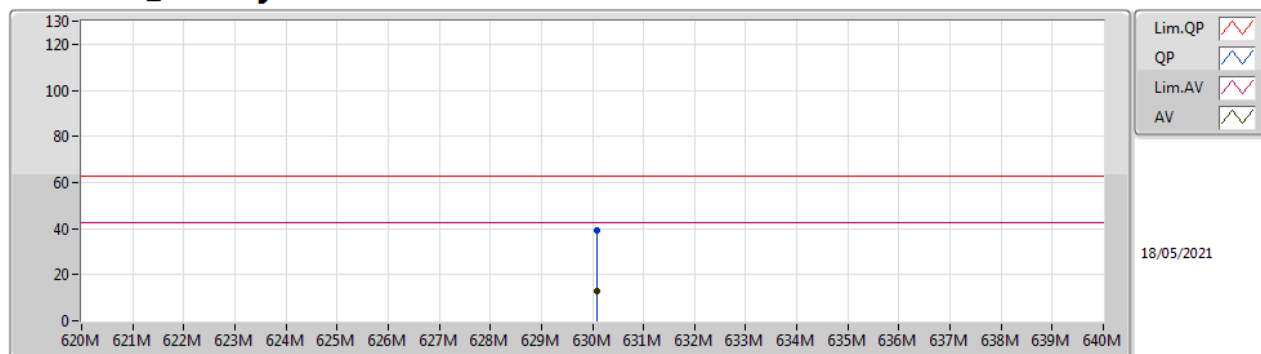
315MHz_Battery



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	315.03M	56.73	62.67	-5.94	20.25	3	Horizontal	360	1.00	-	36.48	18.55	1.70	-
PK	315.03M	69.68	82.67	-12.99	20.25	3	Horizontal	360	1.00	-	49.43	18.55	1.70	-

ASK_Nss1_1TX

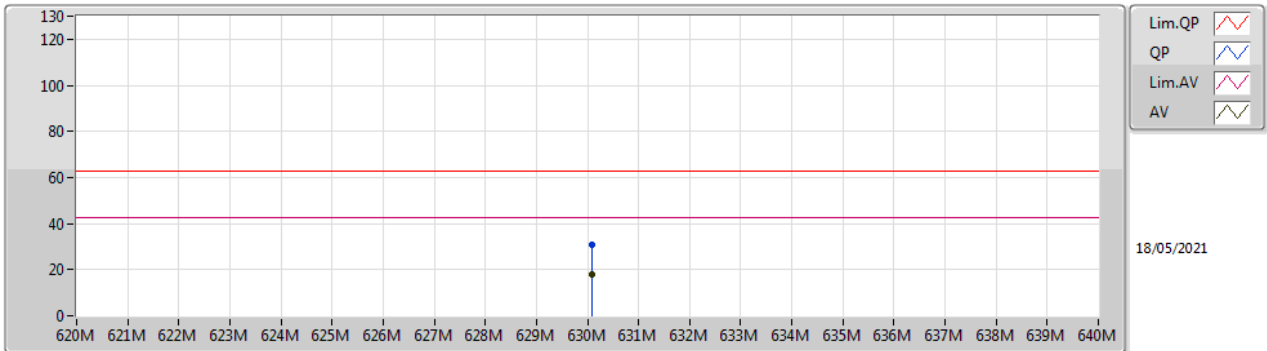
315MHz_Battery



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	630.09M	12.87	42.67	-29.80	-9.13	3	Vertical	113	1.00	-	22.00	25.51	2.56	37.20
PK	630.09M	39.03	62.67	-23.64	-9.13	3	Vertical	113	1.00	-	48.16	25.51	2.56	37.20

ASK_Nss1_1TX

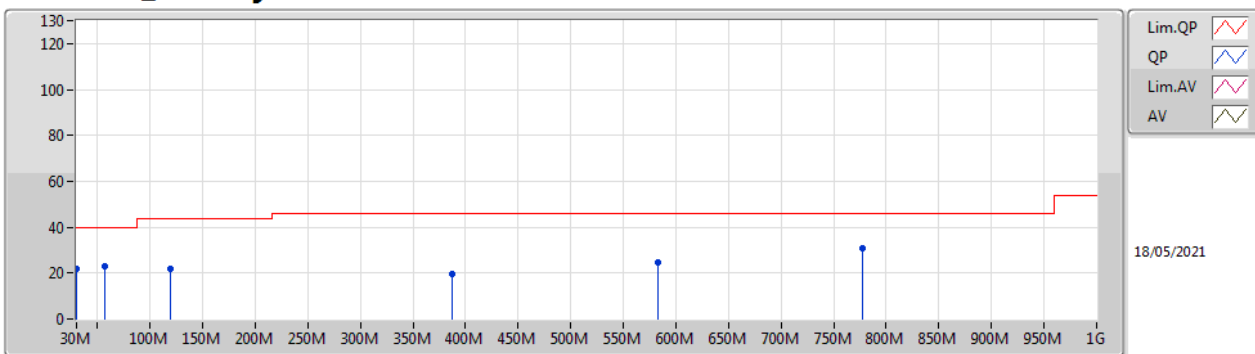
315MHz_Battery



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	630.09M	17.75	42.67	-24.92	-9.13	3	Horizontal	126	2.38	-	26.88	25.51	2.56	37.20
PK	630.1M	30.70	62.67	-31.97	-9.13	3	Horizontal	126	2.38	-	39.83	25.51	2.56	37.20

ASK_Nss1_1TX

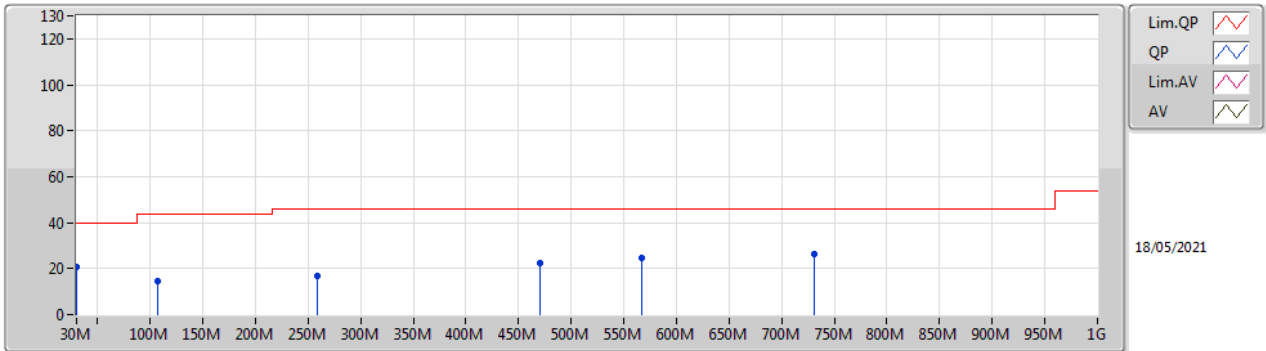
315MHz_Battery



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	30M	21.85	40.00	-18.15	-13.08	3	Vertical	360	1.00	-	34.93	23.51	0.56	37.15
PK	57.16M	23.07	40.00	-16.93	-25.12	3	Vertical	360	1.00	-	48.19	11.14	0.83	37.09
PK	119.24M	21.77	43.50	-21.73	-18.91	3	Vertical	360	1.00	-	40.68	16.69	1.08	36.68
PK	386.96M	19.79	46.00	-26.21	-14.07	3	Vertical	360	1.00	-	33.86	20.62	1.87	36.56
PK	582.9M	24.56	46.00	-21.44	-9.73	3	Vertical	360	1.00	-	34.29	24.94	2.44	37.11
PK	776.9M	31.00	46.00	-15.00	-7.41	3	Vertical	360	1.00	-	38.41	27.36	2.77	37.54

ASK_Nss1_1TX

315MHz_Battery



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	30M	20.76	40.00	-19.24	-13.08	3	Horizontal	0	1.00	-	33.84	23.51	0.56	37.15
PK	107.6M	14.63	43.50	-28.87	-19.74	3	Horizontal	0	1.00	-	34.37	15.89	1.01	36.64
PK	258.92M	16.89	46.00	-29.11	-15.86	3	Horizontal	0	1.00	-	32.75	19.01	1.53	36.40
PK	470.38M	22.43	46.00	-23.57	-11.83	3	Horizontal	0	1.00	-	34.26	22.79	2.15	36.77
PK	567.38M	24.87	46.00	-21.13	-9.41	3	Horizontal	0	1.00	-	34.28	25.27	2.41	37.09
PK	730.34M	26.34	46.00	-19.66	-7.87	3	Horizontal	0	1.00	-	34.21	26.86	2.75	37.48

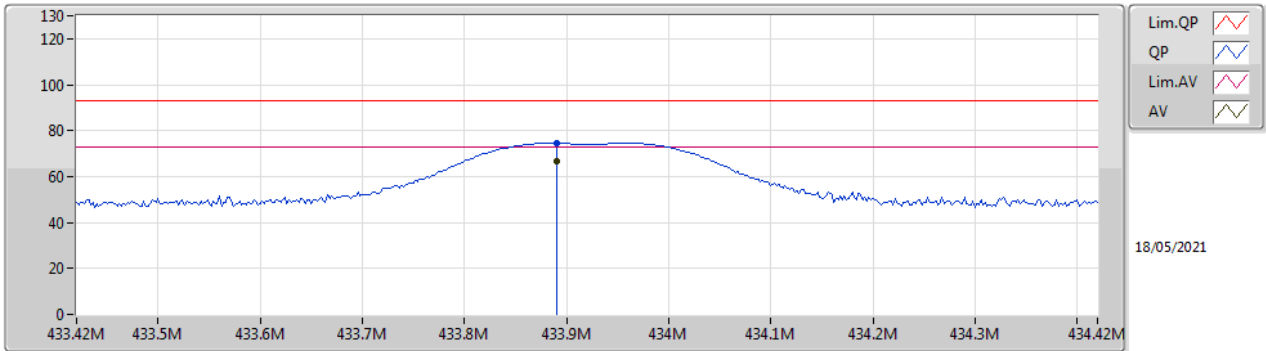
3.3.8 Transmitter Radiated Unwanted Emissions (Below 1GHz)_433M

Summary

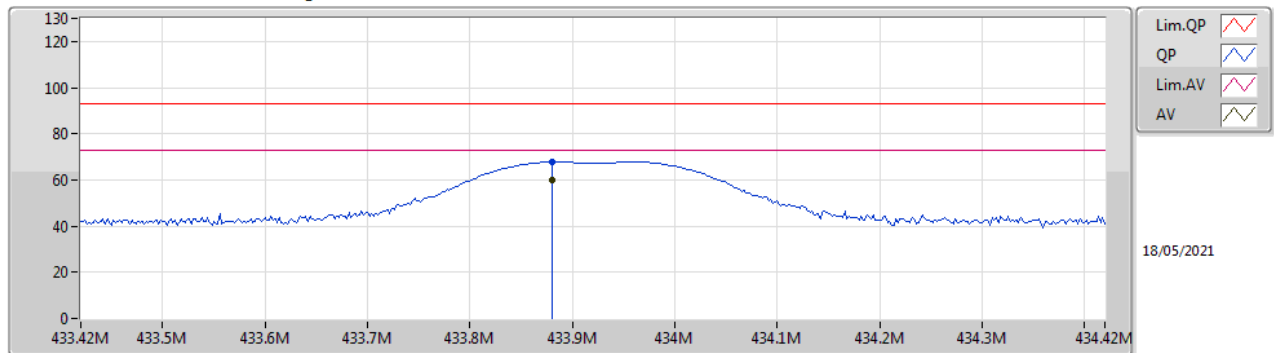
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
433.05-434.79MHz	-	-	-	-	-	-	-	-	-	-	-
FSK_Nss1_1TX	Pass	AV	433.89M	66.46	72.87	-6.41	3	Vertical	37	1.25	-
ASK_Nss1_1TX	Pass	AV	433.95M	61.33	72.87	-11.54	3	Vertical	37	1.28	-

Result

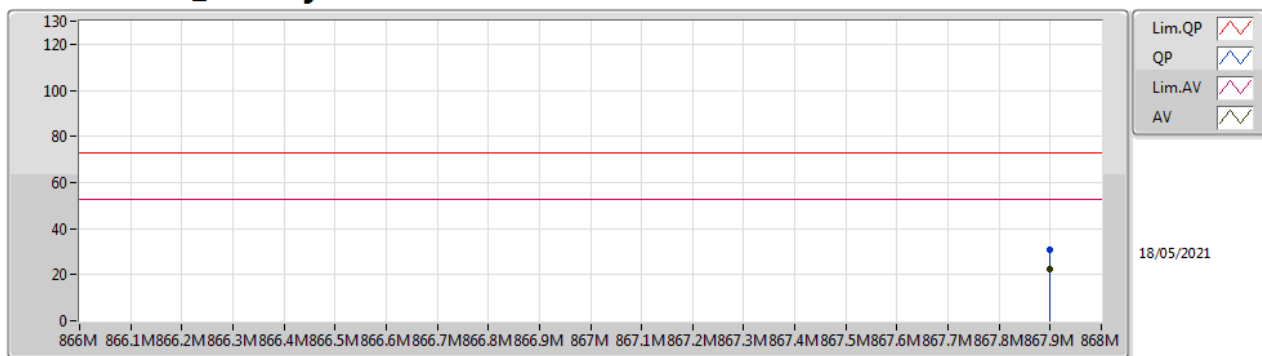
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
FSK_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
433.92MHz	Pass	AV	433.89M	66.46	72.87	-6.41	3	Vertical	37	1.25	-
433.92MHz	Pass	PK	433.89M	74.50	92.87	-18.37	3	Vertical	37	1.25	-
433.92MHz	Pass	AV	433.88M	59.74	72.87	-13.13	3	Horizontal	128	1.36	-
433.92MHz	Pass	PK	433.88M	67.78	92.87	-25.09	3	Horizontal	128	1.36	-
433.92MHz	Pass	AV	867.9M	22.67	52.87	-30.20	3	Vertical	203	1.28	-
433.92MHz	Pass	PK	867.9M	30.71	72.87	-42.16	3	Vertical	203	1.28	-
433.92MHz	Pass	AV	867.78M	20.50	52.87	-32.37	3	Horizontal	360	1.62	-
433.92MHz	Pass	PK	867.78M	28.54	72.87	-44.33	3	Horizontal	360	1.62	-
433.92MHz	Pass	PK	30M	22.13	40.00	-17.87	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	66.86M	23.39	40.00	-16.61	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	408.3M	27.87	46.00	-18.13	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	460.68M	29.06	46.00	-16.94	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	648.86M	25.02	46.00	-20.98	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	738.1M	26.92	46.00	-19.08	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	30M	20.90	40.00	-19.10	3	Horizontal	0	1.00	-
433.92MHz	Pass	PK	68.8M	16.70	40.00	-23.30	3	Horizontal	0	1.00	-
433.92MHz	Pass	PK	138.64M	15.39	43.50	-28.11	3	Horizontal	0	1.00	-
433.92MHz	Pass	PK	408.3M	22.54	46.00	-23.46	3	Horizontal	0	1.00	-
433.92MHz	Pass	PK	460.68M	23.66	46.00	-22.34	3	Horizontal	0	1.00	-
433.92MHz	Pass	PK	584.84M	25.47	46.00	-20.53	3	Horizontal	0	1.00	-
ASK_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
433.92MHz	Pass	AV	433.95M	61.33	72.87	-11.54	3	Vertical	37	1.28	-
433.92MHz	Pass	PK	433.95M	74.88	92.87	-17.99	3	Vertical	37	1.28	-
433.92MHz	Pass	AV	433.95M	54.64	72.87	-18.23	3	Horizontal	120	1.37	-
433.92MHz	Pass	PK	433.95M	68.19	92.87	-24.68	3	Horizontal	120	1.37	-
433.92MHz	Pass	AV	867.67M	15.00	52.87	-37.87	3	Vertical	233	2.96	-
433.92MHz	Pass	PK	867.67M	28.55	72.87	-44.32	3	Vertical	233	2.96	-
433.92MHz	Pass	AV	867.78M	14.54	52.87	-38.33	3	Horizontal	359	1.00	-
433.92MHz	Pass	PK	867.78M	28.09	72.87	-44.78	3	Horizontal	359	1.00	-
433.92MHz	Pass	PK	30M	20.68	40.00	-19.32	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	70.74M	22.20	40.00	-17.80	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	115.36M	16.19	43.50	-27.31	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	408.3M	28.07	46.00	-17.93	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	460.68M	25.67	46.00	-20.33	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	681.84M	25.73	46.00	-20.27	3	Vertical	360	1.00	-
433.92MHz	Pass	PK	30M	21.27	40.00	-18.73	3	Horizontal	0	1.00	-
433.92MHz	Pass	PK	68.8M	16.26	40.00	-23.74	3	Horizontal	0	1.00	-
433.92MHz	Pass	PK	113.42M	14.00	43.50	-29.50	3	Horizontal	0	1.00	-
433.92MHz	Pass	PK	408.3M	22.83	46.00	-23.17	3	Horizontal	0	1.00	-
433.92MHz	Pass	PK	582.9M	24.20	46.00	-21.80	3	Horizontal	0	1.00	-
433.92MHz	Pass	PK	687.66M	25.83	46.00	-20.17	3	Horizontal	0	1.00	-

FSK_Nss1_1TX
433.92MHz_Battery


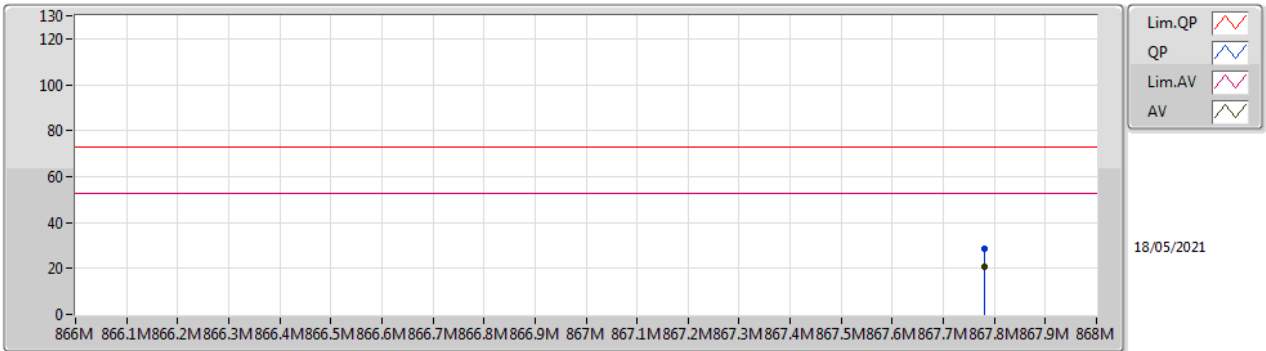
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	433.89M	66.46	72.87	-6.41	24.22	3	Vertical	37	1.25	-	42.24	22.18	2.04	-
PK	433.89M	74.50	92.87	-18.37	24.22	3	Vertical	37	1.25	-	50.28	22.18	2.04	-

FSK_Nss1_1TX
433.92MHz_Battery


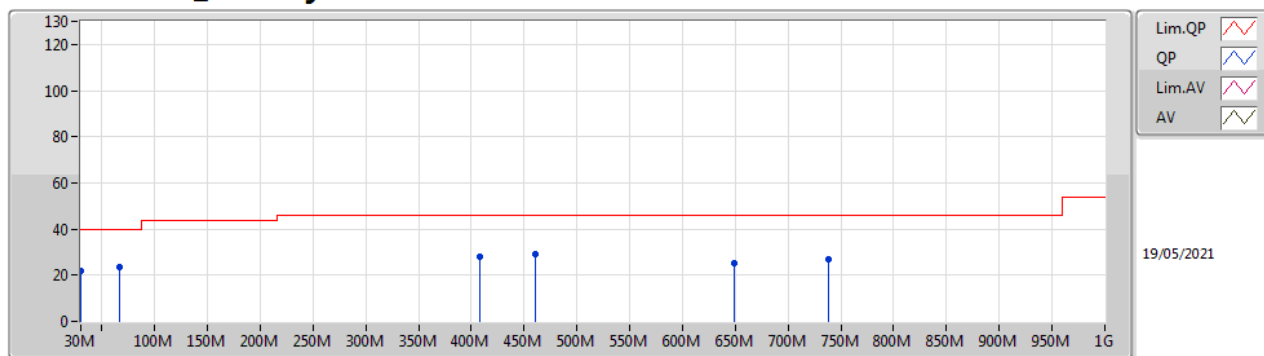
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	433.88M	59.74	72.87	-13.13	24.22	3	Horizontal	128	1.36	-	35.52	22.18	2.04	-
PK	433.88M	67.78	92.87	-25.09	24.22	3	Horizontal	128	1.36	-	43.56	22.18	2.04	-

FSK_Nss1_1TX
433.92MHz_Battery


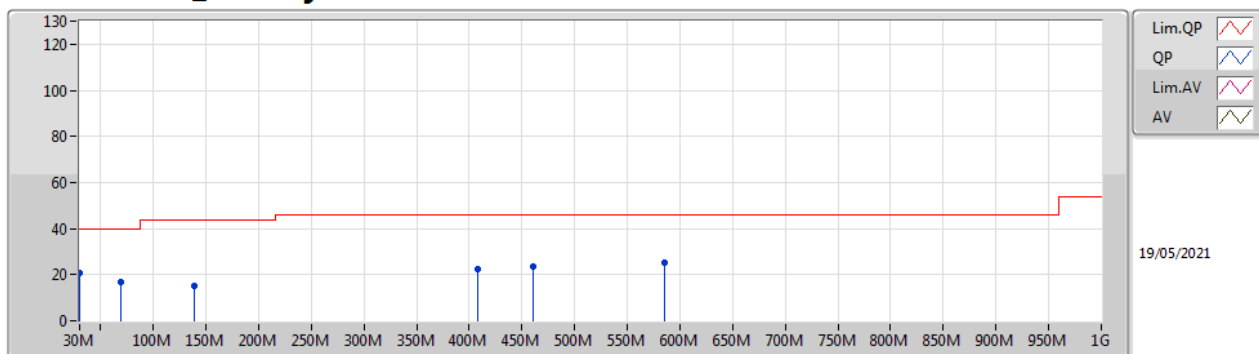
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	867.9M	22.67	52.87	-30.20	-6.45	3	Vertical	203	1.28	-	29.12	28.19	2.96	37.60
PK	867.9M	30.71	72.87	-42.16	-6.45	3	Vertical	203	1.28	-	37.16	28.19	2.96	37.60

FSK_Nss1_1TX
433.92MHz_Battery


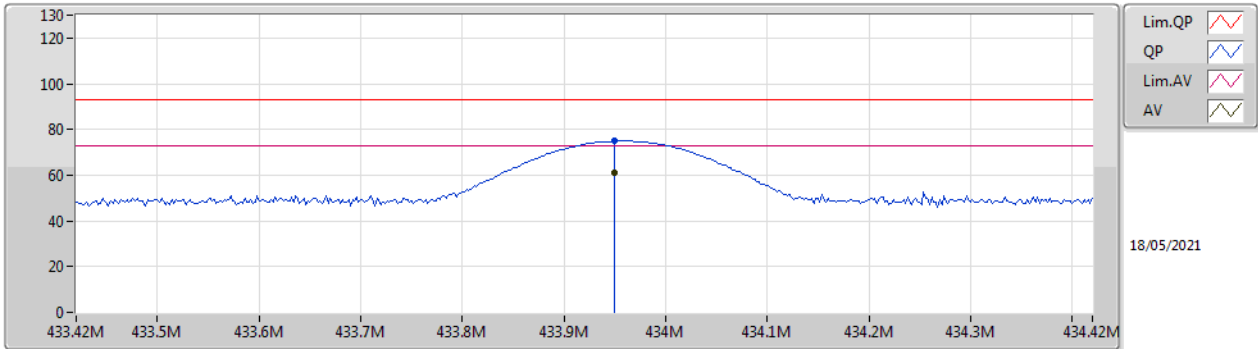
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	867.78M	20.50	52.87	-32.37	-6.45	3	Horizontal	360	1.62	-	26.95	28.19	2.96	37.60
PK	867.78M	28.54	72.87	-44.33	-6.45	3	Horizontal	360	1.62	-	34.99	28.19	2.96	37.60

FSK_Nss1_1TX
433.92MHz_Battery


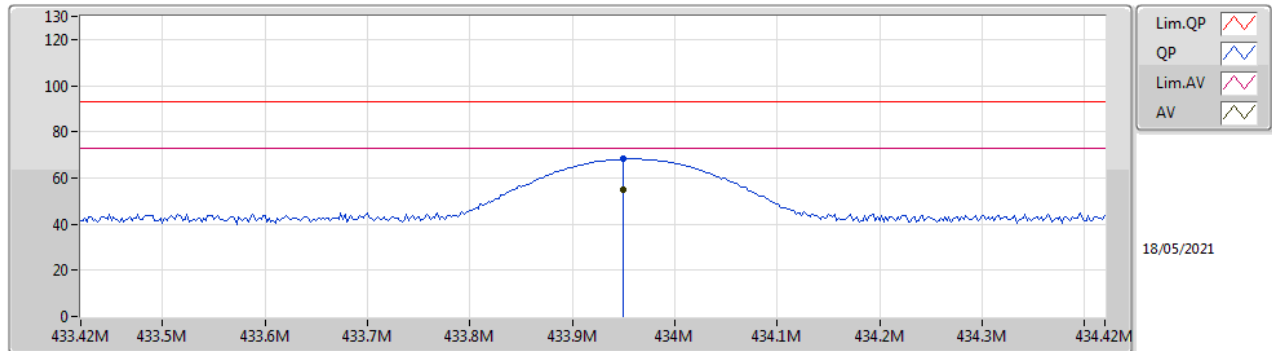
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	30M	22.13	40.00	-17.87	-13.08	3	Vertical	360	1.00	-	35.21	23.51	0.56	37.15
PK	66.86M	23.39	40.00	-16.61	-25.06	3	Vertical	360	1.00	-	48.45	11.12	0.83	37.01
PK	408.3M	27.87	46.00	-18.13	-13.15	3	Vertical	360	1.00	-	41.02	21.49	1.94	36.58
PK	460.68M	29.06	46.00	-16.94	-11.94	3	Vertical	360	1.00	-	41.00	22.63	2.13	36.70
PK	648.86M	25.02	46.00	-20.98	-9.09	3	Vertical	360	1.00	-	34.11	25.54	2.62	37.25
PK	738.1M	26.92	46.00	-19.08	-7.66	3	Vertical	360	1.00	-	34.58	27.11	2.76	37.53

FSK_Nss1_1TX
433.92MHz_Battery


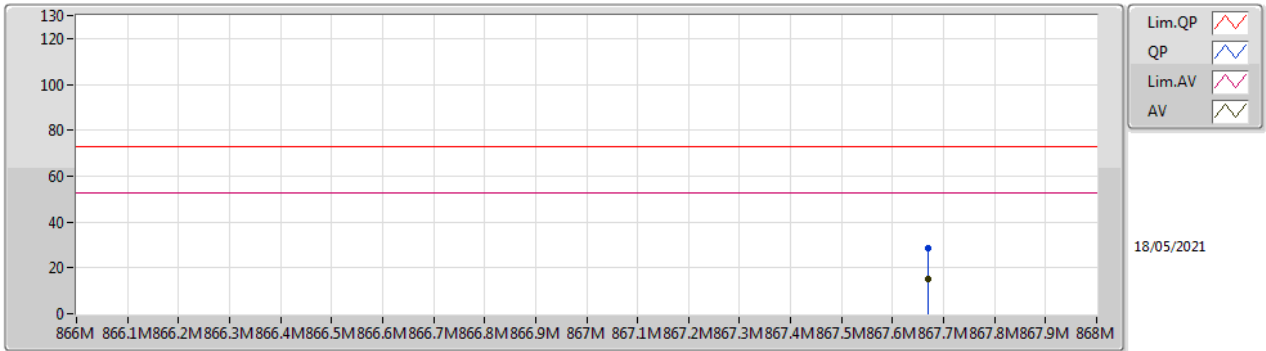
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	30M	20.90	40.00	-19.10	-13.08	3	Horizontal	0	1.00	-	33.98	23.51	0.56	37.15
PK	68.8M	16.70	40.00	-23.30	-24.84	3	Horizontal	0	1.00	-	41.54	11.31	0.84	36.99
PK	138.64M	15.39	43.50	-28.11	-18.52	3	Horizontal	0	1.00	-	33.91	16.75	1.16	36.43
PK	408.3M	22.54	46.00	-23.46	-13.15	3	Horizontal	0	1.00	-	35.69	21.49	1.94	36.58
PK	460.68M	23.66	46.00	-22.34	-11.94	3	Horizontal	0	1.00	-	35.60	22.63	2.13	36.70
PK	584.84M	25.47	46.00	-20.53	-9.70	3	Horizontal	0	1.00	-	35.17	24.97	2.44	37.11

ASK_Nss1_1TX
433.92MHz_Battery


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	433.95M	61.33	72.87	-11.54	24.22	3	Vertical	37	1.28	-	37.11	22.18	2.04	-
PK	433.95M	74.88	92.87	-17.99	24.22	3	Vertical	37	1.28	-	50.66	22.18	2.04	-

ASK_Nss1_1TX
433.92MHz_Battery


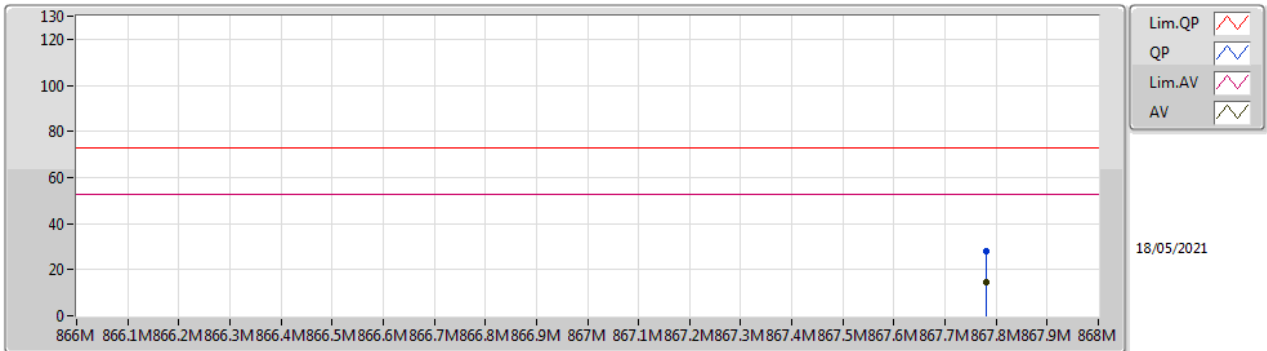
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	433.95M	54.64	72.87	-18.23	24.22	3	Horizontal	120	1.37	-	30.42	22.18	2.04	-
PK	433.95M	68.19	92.87	-24.68	24.22	3	Horizontal	120	1.37	-	43.97	22.18	2.04	-

ASK_Nss1_1TX
433.92MHz_Battery


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	867.67M	15.00	52.87	-37.87	-6.44	3	Vertical	233	2.96	-	21.44	28.20	2.96	37.60
PK	867.67M	28.55	72.87	-44.32	-6.44	3	Vertical	233	2.96	-	34.99	28.20	2.96	37.60

ASK_Nss1_1TX

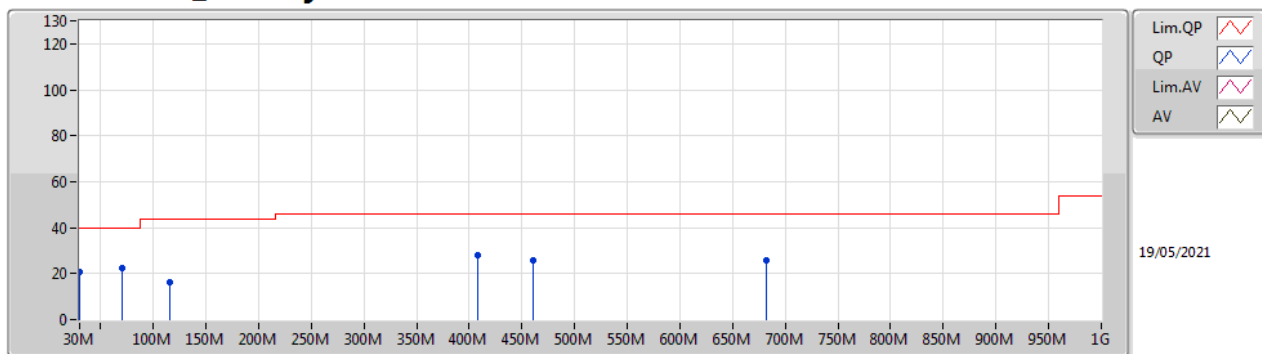
433.92MHz_Battery



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	867.78M	14.54	52.87	-38.33	-6.45	3	Horizontal	359	1.00	-	20.99	28.19	2.96	37.60
PK	867.78M	28.09	72.87	-44.78	-6.45	3	Horizontal	359	1.00	-	34.54	28.19	2.96	37.60

ASK_Nss1_1TX

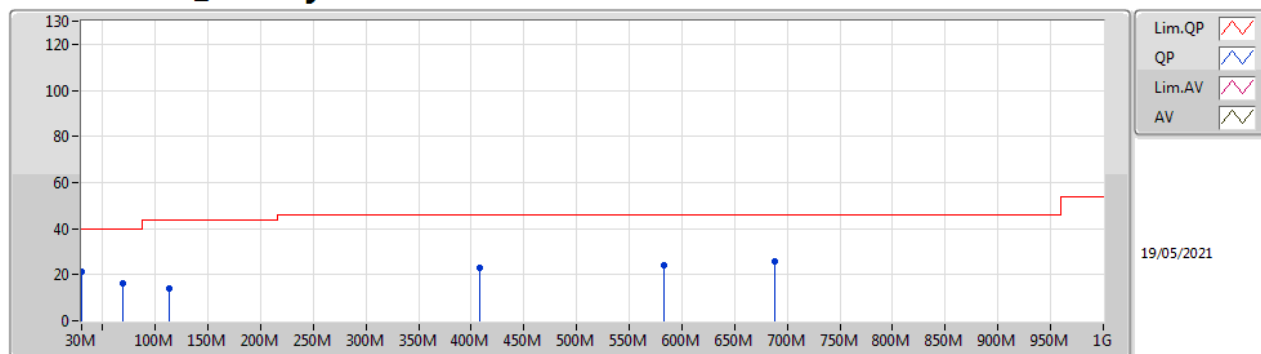
433.92MHz_Battery



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	30M	20.68	40.00	-19.32	-13.08	3	Vertical	360	1.00	-	33.76	23.51	0.56	37.15
PK	70.74M	22.20	40.00	-17.80	-24.70	3	Vertical	360	1.00	-	46.90	11.43	0.84	36.97
PK	115.36M	16.19	43.50	-27.31	-19.01	3	Vertical	360	1.00	-	35.20	16.61	1.05	36.67
PK	408.3M	28.07	46.00	-17.93	-13.15	3	Vertical	360	1.00	-	41.22	21.49	1.94	36.58
PK	460.68M	25.67	46.00	-20.33	-11.94	3	Vertical	360	1.00	-	37.61	22.63	2.13	36.70
PK	681.84M	25.73	46.00	-20.27	-8.99	3	Vertical	360	1.00	-	34.72	25.63	2.66	37.28

ASK_Nss1_1TX

433.92MHz_Battery



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	30M	21.27	40.00	-18.73	-13.08	3	Horizontal	0	1.00	-	34.35	23.51	0.56	37.15
PK	68.8M	16.26	40.00	-23.74	-24.84	3	Horizontal	0	1.00	-	41.10	11.31	0.84	36.99
PK	113.42M	14.00	43.50	-29.50	-19.21	3	Horizontal	0	1.00	-	33.21	16.41	1.04	36.66
PK	408.3M	22.83	46.00	-23.17	-13.15	3	Horizontal	0	1.00	-	35.98	21.49	1.94	36.58
PK	582.9M	24.20	46.00	-21.80	-9.73	3	Horizontal	0	1.00	-	33.93	24.94	2.44	37.11
PK	687.66M	25.83	46.00	-20.17	-8.96	3	Horizontal	0	1.00	-	34.79	25.65	2.67	37.28

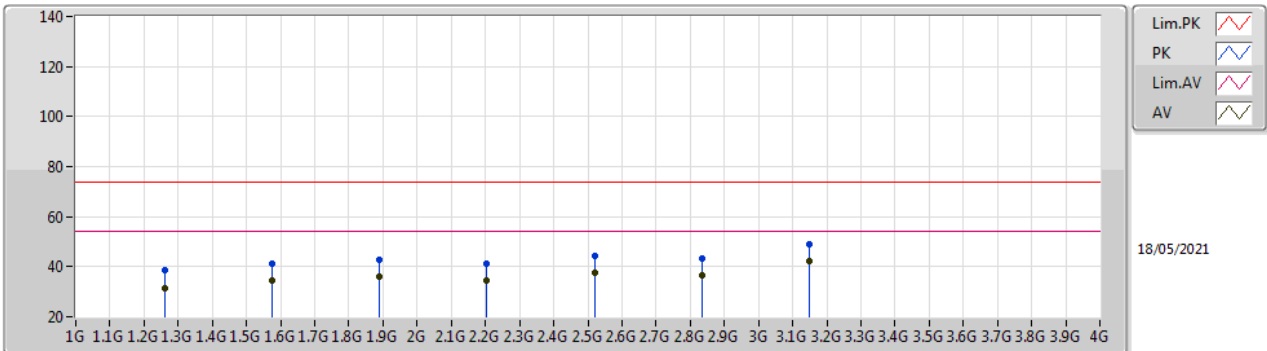
3.3.9 Transmitter Radiated Unwanted Emissions (Above 1GHz)_315M

Summary

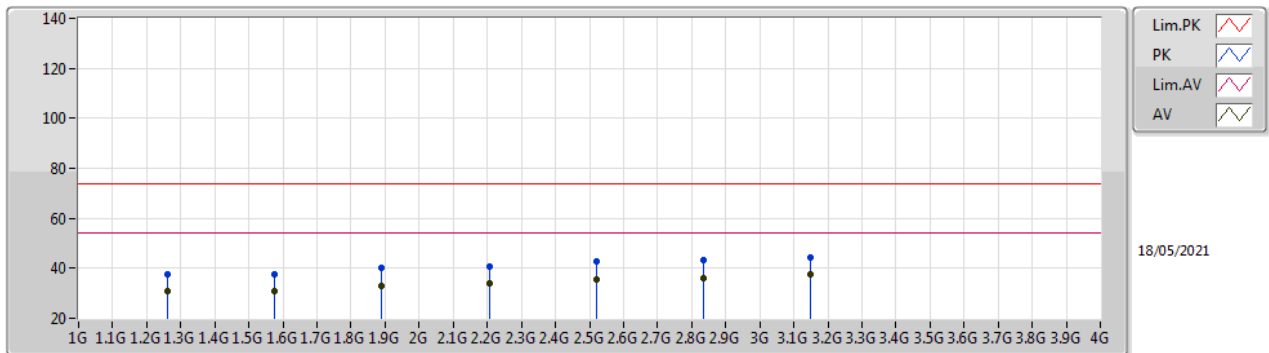
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
315MHz	-	-	-	-	-	-	-	-	-	-	-
FSK_Nss1_1TX	Pass	AV	3.14988G	42.23	54.00	-11.77	3	Vertical	0	1.66	-
ASK_Nss1_1TX	Pass	AV	3.15067G	35.90	54.00	-18.10	3	Vertical	0	1.37	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
FSK_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
315MHz	Pass	AV	1.2613G	31.62	54.00	-22.38	3	Vertical	266	1.57	-
315MHz	Pass	AV	1.57528G	34.23	54.00	-19.77	3	Vertical	248	1.50	-
315MHz	Pass	AV	1.89036G	35.80	54.00	-18.20	3	Vertical	293	1.01	-
315MHz	Pass	AV	2.20442G	34.38	54.00	-19.62	3	Vertical	233	1.50	-
315MHz	Pass	AV	2.51958G	37.59	54.00	-16.41	3	Vertical	295	1.00	-
315MHz	Pass	AV	2.83495G	36.53	54.00	-17.47	3	Vertical	0	1.79	-
315MHz	Pass	AV	3.14988G	42.23	54.00	-11.77	3	Vertical	0	1.66	-
315MHz	Pass	PK	1.2613G	38.57	74.00	-35.43	3	Vertical	266	1.57	-
315MHz	Pass	PK	1.57528G	41.18	74.00	-32.82	3	Vertical	248	1.50	-
315MHz	Pass	PK	1.89036G	42.75	74.00	-31.25	3	Vertical	293	1.01	-
315MHz	Pass	PK	2.20442G	41.33	74.00	-32.67	3	Vertical	233	1.50	-
315MHz	Pass	PK	2.51958G	44.54	74.00	-29.46	3	Vertical	295	1.00	-
315MHz	Pass	PK	2.83495G	43.48	74.00	-30.52	3	Vertical	0	1.79	-
315MHz	Pass	PK	3.14988G	49.18	74.00	-24.82	3	Vertical	0	1.66	-
315MHz	Pass	AV	1.26091G	30.64	54.00	-23.36	3	Horizontal	113	1.76	-
315MHz	Pass	AV	1.5747G	30.81	54.00	-23.19	3	Horizontal	272	2.48	-
315MHz	Pass	AV	1.89021G	33.01	54.00	-20.99	3	Horizontal	104	2.19	-
315MHz	Pass	AV	2.20557G	33.98	54.00	-20.02	3	Horizontal	333	2.02	-
315MHz	Pass	AV	2.51948G	35.56	54.00	-18.44	3	Horizontal	307	2.58	-
315MHz	Pass	AV	2.83578G	36.22	54.00	-17.78	3	Horizontal	163	2.24	-
315MHz	Pass	AV	3.14963G	37.53	54.00	-16.47	3	Horizontal	103	2.65	-
315MHz	Pass	PK	1.26091G	37.59	74.00	-36.41	3	Horizontal	113	1.76	-
315MHz	Pass	PK	1.5747G	37.76	74.00	-36.24	3	Horizontal	272	2.48	-
315MHz	Pass	PK	1.89021G	39.96	74.00	-34.04	3	Horizontal	104	2.19	-
315MHz	Pass	PK	2.20557G	40.93	74.00	-33.07	3	Horizontal	333	2.02	-
315MHz	Pass	PK	2.51948G	42.51	74.00	-31.49	3	Horizontal	307	2.58	-
315MHz	Pass	PK	2.83578G	43.17	74.00	-30.83	3	Horizontal	163	2.24	-
315MHz	Pass	PK	3.14963G	44.48	74.00	-29.52	3	Horizontal	103	2.65	-
ASK_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
315MHz	Pass	AV	1.26042G	25.22	54.00	-28.78	3	Vertical	265	1.56	-
315MHz	Pass	AV	1.57522G	28.93	54.00	-25.07	3	Vertical	293	1.46	-
315MHz	Pass	AV	1.89002G	29.76	54.00	-24.24	3	Vertical	294	1.00	-
315MHz	Pass	AV	2.20475G	27.52	54.00	-26.48	3	Vertical	0	1.26	-
315MHz	Pass	AV	2.52021G	31.45	54.00	-22.55	3	Vertical	230	1.00	-
315MHz	Pass	AV	2.83501G	30.56	54.00	-23.44	3	Vertical	360	1.36	-
315MHz	Pass	AV	3.15067G	35.90	54.00	-18.10	3	Vertical	0	1.37	-
315MHz	Pass	PK	1.26042G	38.17	74.00	-35.83	3	Vertical	265	1.56	-
315MHz	Pass	PK	1.57522G	41.88	74.00	-32.12	3	Vertical	293	1.46	-
315MHz	Pass	PK	1.89002G	42.71	74.00	-31.29	3	Vertical	294	1.00	-
315MHz	Pass	PK	2.20475G	40.47	74.00	-33.53	3	Vertical	0	1.26	-
315MHz	Pass	PK	2.52021G	44.40	74.00	-29.60	3	Vertical	230	1.00	-
315MHz	Pass	PK	2.83501G	43.51	74.00	-30.49	3	Vertical	360	1.36	-
315MHz	Pass	PK	3.15067G	48.85	74.00	-25.15	3	Vertical	0	1.37	-
315MHz	Pass	AV	1.2606G	24.08	54.00	-29.92	3	Horizontal	130	1.97	-
315MHz	Pass	AV	1.57461G	23.92	54.00	-30.08	3	Horizontal	349	1.48	-
315MHz	Pass	AV	1.88526G	26.52	54.00	-27.48	3	Horizontal	119	1.65	-
315MHz	Pass	AV	2.20964G	28.18	54.00	-25.82	3	Horizontal	135	1.58	-
315MHz	Pass	AV	2.5173G	30.23	54.00	-23.77	3	Horizontal	282	1.32	-
315MHz	Pass	AV	2.83294G	29.73	54.00	-24.27	3	Horizontal	328	2.41	-
315MHz	Pass	AV	3.15008G	31.14	54.00	-22.86	3	Horizontal	192	2.61	-
315MHz	Pass	PK	1.2606G	37.03	74.00	-36.97	3	Horizontal	130	1.97	-
315MHz	Pass	PK	1.57461G	36.87	74.00	-37.13	3	Horizontal	349	1.48	-
315MHz	Pass	PK	1.88526G	39.47	74.00	-34.53	3	Horizontal	119	1.65	-
315MHz	Pass	PK	2.20964G	41.13	74.00	-32.87	3	Horizontal	135	1.58	-
315MHz	Pass	PK	2.5173G	43.18	74.00	-30.82	3	Horizontal	282	1.32	-
315MHz	Pass	PK	2.83294G	42.68	74.00	-31.32	3	Horizontal	328	2.41	-
315MHz	Pass	PK	3.15008G	44.09	74.00	-29.91	3	Horizontal	192	2.61	-

FSK_Nss1_1TX
315MHz_TX


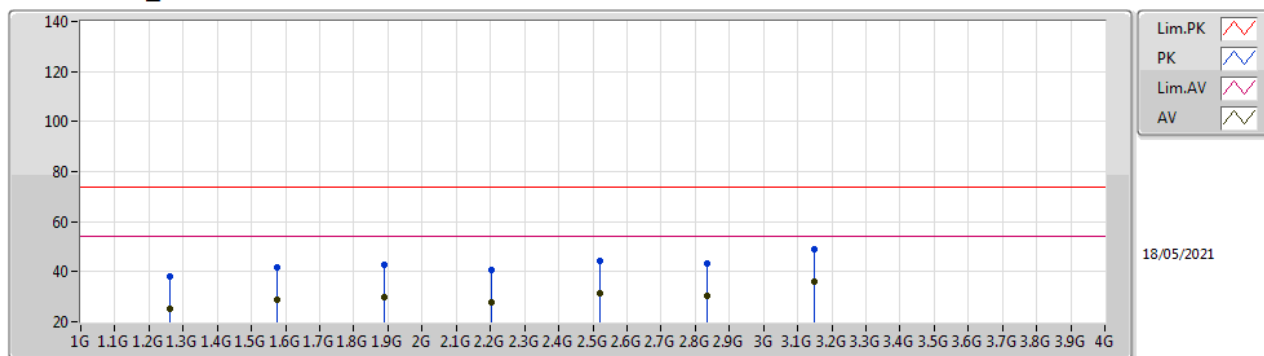
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	1.2613G	31.62	54.00	-22.38	-7.17	3	Vertical	266	1.57	-	38.79	25.67	2.66	35.50
AV	1.57528G	34.23	54.00	-19.77	-5.74	3	Vertical	248	1.50	-	39.97	26.20	2.98	34.92
AV	1.89036G	35.80	54.00	-18.20	-2.93	3	Vertical	293	1.01	-	38.73	28.51	3.29	34.73
AV	2.20442G	34.38	54.00	-19.62	-1.50	3	Vertical	233	1.50	-	35.88	29.66	3.61	34.77
AV	2.51958G	37.59	54.00	-16.41	-0.48	3	Vertical	295	1.00	-	38.07	30.36	4.08	34.92
AV	2.83495G	36.53	54.00	-17.47	-0.40	3	Vertical	0	1.79	-	36.93	30.06	4.53	34.99
AV	3.14988G	42.23	54.00	-11.77	0.20	3	Vertical	0	1.66	-	42.03	30.50	4.77	35.07
PK	1.2613G	38.57	74.00	-35.43	-7.17	3	Vertical	266	1.57	-	45.74	25.67	2.66	35.50
PK	1.57528G	41.18	74.00	-32.82	-5.74	3	Vertical	248	1.50	-	46.92	26.20	2.98	34.92
PK	1.89036G	42.75	74.00	-31.25	-2.93	3	Vertical	293	1.01	-	45.68	28.51	3.29	34.73
PK	2.20442G	41.33	74.00	-32.67	-1.50	3	Vertical	233	1.50	-	42.83	29.66	3.61	34.77
PK	2.51958G	44.54	74.00	-29.46	-0.48	3	Vertical	295	1.00	-	45.02	30.36	4.08	34.92
PK	2.83495G	43.48	74.00	-30.52	-0.40	3	Vertical	0	1.79	-	43.88	30.06	4.53	34.99
PK	3.14988G	49.18	74.00	-24.82	0.20	3	Vertical	0	1.66	-	48.98	30.50	4.77	35.07

FSK_Nss1_1TX
315MHz_TX


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	1.26091G	30.64	54.00	-23.36	-7.17	3	Horizontal	113	1.76	-	37.81	25.67	2.66	35.50
AV	1.5747G	30.81	54.00	-23.19	-5.75	3	Horizontal	272	2.48	-	36.56	26.20	2.97	34.92
AV	1.89021G	33.01	54.00	-20.99	-2.94	3	Horizontal	104	2.19	-	35.95	28.50	3.29	34.73
AV	2.20557G	33.98	54.00	-20.02	-1.50	3	Horizontal	333	2.02	-	35.48	29.66	3.61	34.77
AV	2.51948G	35.56	54.00	-18.44	-0.48	3	Horizontal	307	2.58	-	36.04	30.36	4.08	34.92
AV	2.83578G	36.22	54.00	-17.78	-0.39	3	Horizontal	163	2.24	-	36.61	30.06	4.54	34.99
AV	3.14963G	37.53	54.00	-16.47	0.20	3	Horizontal	103	2.65	-	37.33	30.50	4.77	35.07
PK	1.26091G	37.59	74.00	-36.41	-7.17	3	Horizontal	113	1.76	-	44.76	25.67	2.66	35.50
PK	1.5747G	37.76	74.00	-36.24	-5.75	3	Horizontal	272	2.48	-	43.51	26.20	2.97	34.92
PK	1.89021G	39.96	74.00	-34.04	-2.94	3	Horizontal	104	2.19	-	42.90	28.50	3.29	34.73
PK	2.20557G	40.93	74.00	-33.07	-1.50	3	Horizontal	333	2.02	-	42.43	29.66	3.61	34.77
PK	2.51948G	42.51	74.00	-31.49	-0.48	3	Horizontal	307	2.58	-	42.99	30.36	4.08	34.92
PK	2.83578G	43.17	74.00	-30.83	-0.39	3	Horizontal	163	2.24	-	43.56	30.06	4.54	34.99
PK	3.14963G	44.48	74.00	-29.52	0.20	3	Horizontal	103	2.65	-	44.28	30.50	4.77	35.07

ASK_Nss1_1TX

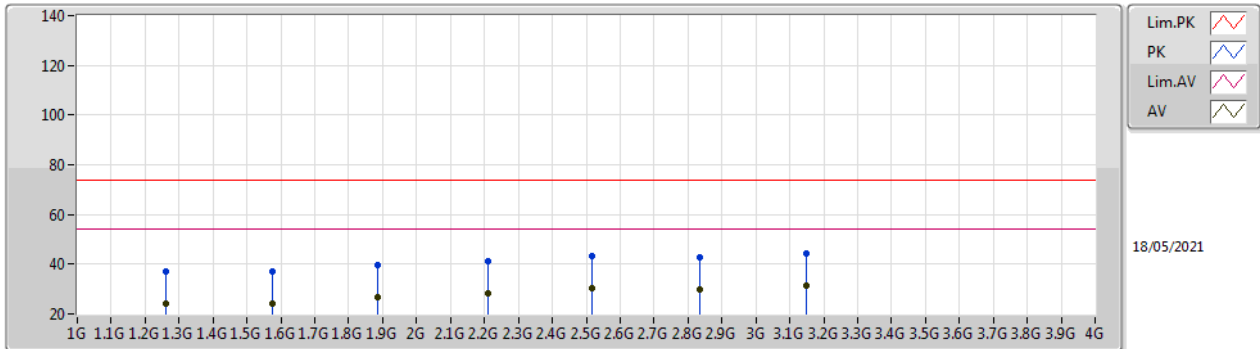
315MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	1.26042G	25.22	54.00	-28.78	-7.18	3	Vertical	265	1.56	-	32.40	25.66	2.66	35.50
AV	1.57522G	28.93	54.00	-25.07	-5.74	3	Vertical	293	1.46	-	34.67	26.20	2.98	34.92
AV	1.89002G	29.76	54.00	-24.24	-2.94	3	Vertical	294	1.00	-	32.70	28.50	3.29	34.73
AV	2.20475G	27.52	54.00	-26.48	-1.50	3	Vertical	0	1.26	-	29.02	29.66	3.61	34.77
AV	2.52021G	31.45	54.00	-22.55	-0.48	3	Vertical	230	1.00	-	31.93	30.36	4.08	34.92
AV	2.83501G	30.56	54.00	-23.44	-0.39	3	Vertical	360	1.36	-	30.95	30.06	4.54	34.99
AV	3.15067G	35.90	54.00	-18.10	0.21	3	Vertical	0	1.37	-	35.69	30.50	4.78	35.07
PK	1.26042G	38.17	74.00	-35.83	-7.18	3	Vertical	265	1.56	-	45.35	25.66	2.66	35.50
PK	1.57522G	41.88	74.00	-32.12	-5.74	3	Vertical	293	1.46	-	47.62	26.20	2.98	34.92
PK	1.89002G	42.71	74.00	-31.29	-2.94	3	Vertical	294	1.00	-	45.65	28.50	3.29	34.73
PK	2.20475G	40.47	74.00	-33.53	-1.50	3	Vertical	0	1.26	-	41.97	29.66	3.61	34.77
PK	2.52021G	44.40	74.00	-29.60	-0.48	3	Vertical	230	1.00	-	44.88	30.36	4.08	34.92
PK	2.83501G	43.51	74.00	-30.49	-0.39	3	Vertical	360	1.36	-	43.90	30.06	4.54	34.99
PK	3.15067G	48.85	74.00	-25.15	0.21	3	Vertical	0	1.37	-	48.64	30.50	4.78	35.07

ASK_Nss1_1TX

315MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	1.2606G	24.08	54.00	-29.92	-7.18	3	Horizontal	130	1.97	-	31.26	25.66	2.66	35.50
AV	1.57461G	23.92	54.00	-30.08	-5.75	3	Horizontal	349	1.48	-	29.67	26.20	2.97	34.92
AV	1.88526G	26.52	54.00	-27.48	-3.04	3	Horizontal	119	1.65	-	29.56	28.41	3.29	34.74
AV	2.20964G	28.18	54.00	-25.82	-1.54	3	Horizontal	135	1.58	-	29.72	29.62	3.61	34.77
AV	2.5173G	30.23	54.00	-23.77	-0.50	3	Horizontal	282	1.32	-	30.73	30.34	4.08	34.92
AV	2.83294G	29.73	54.00	-24.27	-0.39	3	Horizontal	328	2.41	-	30.12	30.07	4.53	34.99
AV	3.15008G	31.14	54.00	-22.86	0.21	3	Horizontal	192	2.61	-	30.93	30.50	4.78	35.07
PK	1.2606G	37.03	74.00	-36.97	-7.18	3	Horizontal	130	1.97	-	44.21	25.66	2.66	35.50
PK	1.57461G	36.87	74.00	-37.13	-5.75	3	Horizontal	349	1.48	-	42.62	26.20	2.97	34.92
PK	1.88526G	39.47	74.00	-34.53	-3.04	3	Horizontal	119	1.65	-	42.51	28.41	3.29	34.74
PK	2.20964G	41.13	74.00	-32.87	-1.54	3	Horizontal	135	1.58	-	42.67	29.62	3.61	34.77
PK	2.5173G	43.18	74.00	-30.82	-0.50	3	Horizontal	282	1.32	-	43.68	30.34	4.08	34.92
PK	2.83294G	42.68	74.00	-31.32	-0.39	3	Horizontal	328	2.41	-	43.07	30.07	4.53	34.99
PK	3.15008G	44.09	74.00	-29.91	0.21	3	Horizontal	192	2.61	-	43.88	30.50	4.78	35.07

3.3.10 Transmitter Radiated Unwanted Emissions (Above 1GHz)_433M

Summary

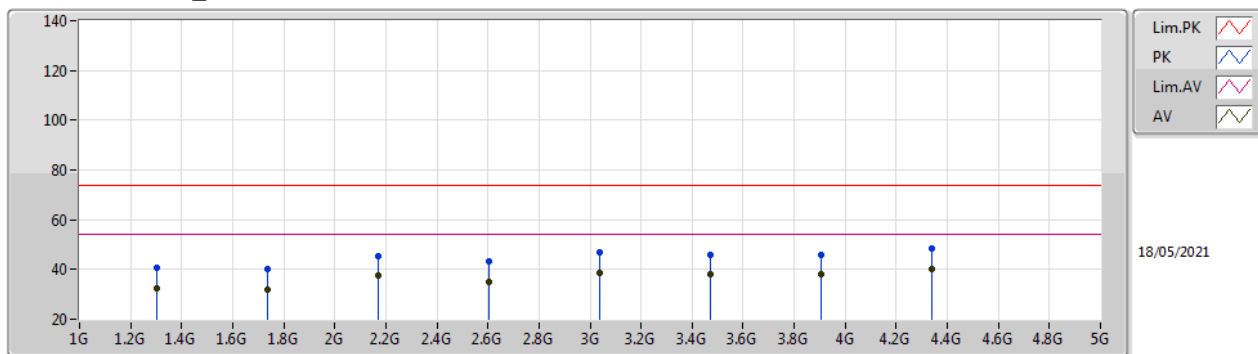
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
433.05-434.79MHz	-	-	-	-	-	-	-	-	-	-	-
FSK_Nss1_1TX	Pass	AV	4.33942G	42.93	54.00	-11.07	3	Horizontal	1	3.00	-
ASK_Nss1_1TX	Pass	AV	3.47166G	39.59	54.00	-14.41	3	Horizontal	360	1.02	-

Result

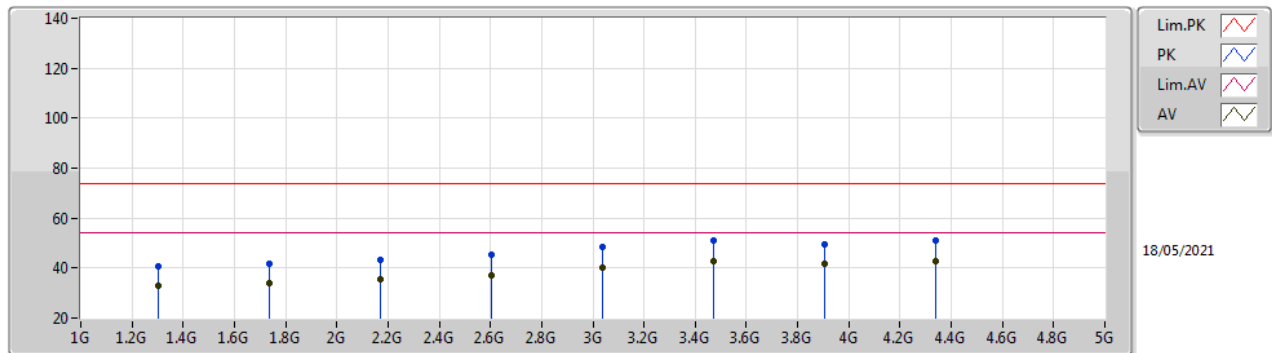
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
FSK_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
433.92MHz	Pass	AV	1.30167G	32.55	54.00	-21.45	3	Vertical	274	1.00	-
433.92MHz	Pass	AV	1.73554G	31.98	54.00	-22.02	3	Vertical	82	2.67	-
433.92MHz	Pass	AV	2.16948G	37.51	54.00	-16.49	3	Vertical	84	1.41	-
433.92MHz	Pass	AV	2.60308G	35.17	54.00	-18.83	3	Vertical	145	1.09	-
433.92MHz	Pass	AV	3.03704G	38.71	54.00	-15.29	3	Vertical	249	2.72	-
433.92MHz	Pass	AV	3.47122G	38.02	54.00	-15.98	3	Vertical	266	1.02	-
433.92MHz	Pass	AV	3.90584G	38.05	54.00	-15.95	3	Vertical	258	2.77	-
433.92MHz	Pass	AV	4.33898G	40.31	54.00	-13.69	3	Vertical	358	2.68	-
433.92MHz	Pass	PK	1.30167G	40.59	74.00	-33.41	3	Vertical	274	1.00	-
433.92MHz	Pass	PK	1.73554G	40.02	74.00	-33.98	3	Vertical	82	2.67	-
433.92MHz	Pass	PK	2.16948G	45.55	74.00	-28.45	3	Vertical	84	1.41	-
433.92MHz	Pass	PK	2.60308G	43.21	74.00	-30.79	3	Vertical	145	1.09	-
433.92MHz	Pass	PK	3.03704G	46.75	74.00	-27.25	3	Vertical	249	2.72	-
433.92MHz	Pass	PK	3.47122G	46.06	74.00	-27.94	3	Vertical	266	1.02	-
433.92MHz	Pass	PK	3.90584G	46.09	74.00	-27.91	3	Vertical	258	2.77	-
433.92MHz	Pass	PK	4.33898G	48.35	74.00	-25.65	3	Vertical	358	2.68	-
433.92MHz	Pass	AV	1.30188G	32.83	54.00	-21.17	3	Horizontal	170	1.62	-
433.92MHz	Pass	AV	1.73545G	33.77	54.00	-20.23	3	Horizontal	182	1.32	-
433.92MHz	Pass	AV	2.16971G	35.43	54.00	-18.57	3	Horizontal	357	1.64	-
433.92MHz	Pass	AV	2.60382G	37.22	54.00	-16.78	3	Horizontal	349	2.08	-
433.92MHz	Pass	AV	3.03695G	40.19	54.00	-13.81	3	Horizontal	346	2.94	-
433.92MHz	Pass	AV	3.47166G	42.76	54.00	-11.24	3	Horizontal	352	1.10	-
433.92MHz	Pass	AV	3.90502G	41.53	54.00	-12.47	3	Horizontal	0	2.40	-
433.92MHz	Pass	AV	4.33942G	42.93	54.00	-11.07	3	Horizontal	1	3.00	-
433.92MHz	Pass	PK	1.30188G	40.87	74.00	-33.13	3	Horizontal	170	1.62	-
433.92MHz	Pass	PK	1.73545G	41.81	74.00	-32.19	3	Horizontal	182	1.32	-
433.92MHz	Pass	PK	2.16971G	43.47	74.00	-30.53	3	Horizontal	357	1.64	-
433.92MHz	Pass	PK	2.60382G	45.26	74.00	-28.74	3	Horizontal	349	2.08	-
433.92MHz	Pass	PK	3.03695G	48.23	74.00	-25.77	3	Horizontal	346	2.94	-
433.92MHz	Pass	PK	3.47166G	50.80	74.00	-23.20	3	Horizontal	352	1.10	-
433.92MHz	Pass	PK	3.90502G	49.57	74.00	-24.43	3	Horizontal	0	2.40	-
433.92MHz	Pass	PK	4.33942G	50.97	74.00	-23.03	3	Horizontal	1	3.00	-
ASK_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
433.92MHz	Pass	AV	1.30178G	25.58	54.00	-28.42	3	Vertical	256	1.00	-
433.92MHz	Pass	AV	1.73586G	28.13	54.00	-25.87	3	Vertical	81	2.84	-
433.92MHz	Pass	AV	2.16961G	28.63	54.00	-25.37	3	Vertical	13	1.50	-
433.92MHz	Pass	AV	2.60368G	30.01	54.00	-23.99	3	Vertical	128	1.00	-
433.92MHz	Pass	AV	3.03725G	29.49	54.00	-24.51	3	Vertical	342	1.50	-
433.92MHz	Pass	AV	3.47176G	34.12	54.00	-19.88	3	Vertical	83	1.08	-
433.92MHz	Pass	AV	3.90527G	31.59	54.00	-22.41	3	Vertical	236	2.85	-
433.92MHz	Pass	AV	4.33967G	34.13	54.00	-19.87	3	Vertical	358	1.01	-
433.92MHz	Pass	PK	1.30178G	39.13	74.00	-34.87	3	Vertical	256	1.00	-
433.92MHz	Pass	PK	1.73586G	41.68	74.00	-32.32	3	Vertical	81	2.84	-
433.92MHz	Pass	PK	2.16961G	42.18	74.00	-31.82	3	Vertical	13	1.50	-
433.92MHz	Pass	PK	2.60368G	43.56	74.00	-30.44	3	Vertical	128	1.00	-
433.92MHz	Pass	PK	3.03725G	43.04	74.00	-30.96	3	Vertical	342	1.50	-
433.92MHz	Pass	PK	3.47176G	47.67	74.00	-26.33	3	Vertical	83	1.08	-
433.92MHz	Pass	PK	3.90527G	45.14	74.00	-28.86	3	Vertical	236	2.85	-
433.92MHz	Pass	PK	4.33967G	47.68	74.00	-26.32	3	Vertical	358	1.01	-
433.92MHz	Pass	AV	1.30181G	26.82	54.00	-27.18	3	Horizontal	168	1.70	-
433.92MHz	Pass	AV	1.73571G	31.72	54.00	-22.28	3	Horizontal	177	1.38	-
433.92MHz	Pass	AV	2.16963G	29.41	54.00	-24.59	3	Horizontal	0	1.48	-
433.92MHz	Pass	AV	2.60378G	33.27	54.00	-20.73	3	Horizontal	351	1.00	-
433.92MHz	Pass	AV	3.03785G	28.89	54.00	-25.11	3	Horizontal	359	1.49	-
433.92MHz	Pass	AV	3.47166G	39.59	54.00	-14.41	3	Horizontal	360	1.02	-
433.92MHz	Pass	AV	3.90554G	34.52	54.00	-19.48	3	Horizontal	360	1.01	-
433.92MHz	Pass	AV	4.33941G	36.77	54.00	-17.23	3	Horizontal	16	1.13	-



Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
433.92MHz	Pass	PK	1.30181G	40.37	74.00	-33.63	3	Horizontal	168	1.70	-
433.92MHz	Pass	PK	1.73571G	45.27	74.00	-28.73	3	Horizontal	177	1.38	-
433.92MHz	Pass	PK	2.16963G	42.96	74.00	-31.04	3	Horizontal	0	1.48	-
433.92MHz	Pass	PK	2.60378G	46.82	74.00	-27.18	3	Horizontal	351	1.00	-
433.92MHz	Pass	PK	3.03785G	42.44	74.00	-31.56	3	Horizontal	359	1.49	-
433.92MHz	Pass	PK	3.47166G	53.14	74.00	-20.86	3	Horizontal	360	1.02	-
433.92MHz	Pass	PK	3.90554G	48.07	74.00	-25.93	3	Horizontal	360	1.01	-
433.92MHz	Pass	PK	4.33941G	50.32	74.00	-23.68	3	Horizontal	16	1.13	-

FSK_Nss1_1TX
433.92MHz_TX


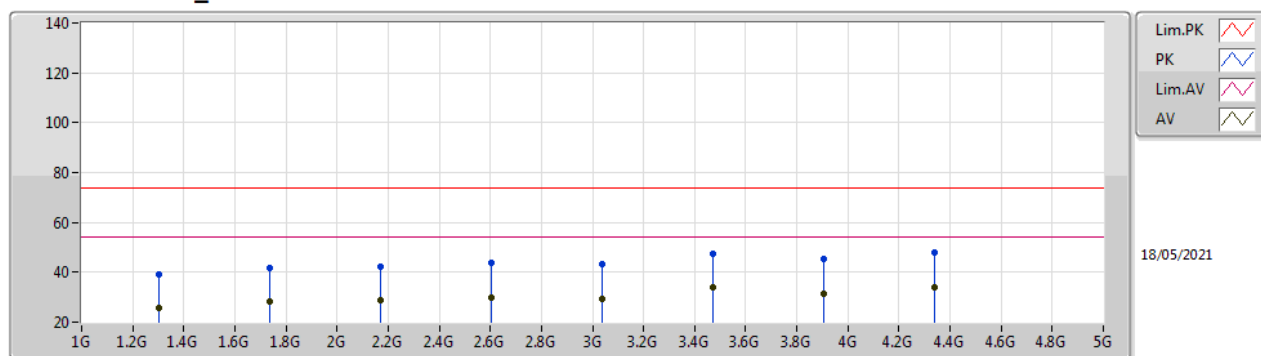
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	1.30167G	32.55	54.00	-21.45	-6.79	3	Vertical	274	1.00	-	39.34	25.92	2.70	35.41
AV	1.73554G	31.98	54.00	-22.02	-5.14	3	Vertical	82	2.67	-	37.12	26.54	3.14	34.82
AV	2.16948G	37.51	54.00	-16.49	-1.11	3	Vertical	84	1.41	-	38.62	30.07	3.57	34.75
AV	2.60308G	35.17	54.00	-18.83	0.06	3	Vertical	145	1.09	-	35.11	30.80	4.20	34.94
AV	3.03704G	38.71	54.00	-15.29	-0.09	3	Vertical	249	2.72	-	38.80	30.23	4.72	35.04
AV	3.47122G	38.02	54.00	-15.98	-0.14	3	Vertical	266	1.02	-	38.16	30.20	4.80	35.14
AV	3.90584G	38.05	54.00	-15.95	0.80	3	Vertical	258	2.77	-	37.25	30.81	4.85	34.86
AV	4.33898G	40.31	54.00	-13.69	2.42	3	Vertical	358	2.68	-	37.89	32.22	5.07	34.87
PK	1.30167G	40.59	74.00	-33.41	-6.79	3	Vertical	274	1.00	-	47.38	25.92	2.70	35.41
PK	1.73554G	40.02	74.00	-33.98	-5.14	3	Vertical	82	2.67	-	45.16	26.54	3.14	34.82
PK	2.16948G	45.55	74.00	-28.45	-1.11	3	Vertical	84	1.41	-	46.66	30.07	3.57	34.75
PK	2.60308G	43.21	74.00	-30.79	0.06	3	Vertical	145	1.09	-	43.15	30.80	4.20	34.94
PK	3.03704G	46.75	74.00	-27.25	-0.09	3	Vertical	249	2.72	-	46.84	30.23	4.72	35.04
PK	3.47122G	46.06	74.00	-27.94	-0.14	3	Vertical	266	1.02	-	46.20	30.20	4.80	35.14
PK	3.90584G	46.09	74.00	-27.91	0.80	3	Vertical	258	2.77	-	45.29	30.81	4.85	34.86
PK	4.33898G	48.35	74.00	-25.65	2.42	3	Vertical	358	2.68	-	45.93	32.22	5.07	34.87

FSK_Nss1_1TX
433.92MHz_TX


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	1.30188G	32.83	54.00	-21.17	-6.79	3	Horizontal	170	1.62	-	39.62	25.92	2.70	35.41
AV	1.73545G	33.77	54.00	-20.23	-5.14	3	Horizontal	182	1.32	-	38.91	26.54	3.14	34.82
AV	2.16971G	35.43	54.00	-18.57	-1.12	3	Horizontal	357	1.64	-	36.55	30.06	3.57	34.75
AV	2.60382G	37.22	54.00	-16.78	0.07	3	Horizontal	349	2.08	-	37.15	30.80	4.21	34.94
AV	3.03695G	40.19	54.00	-13.81	-0.09	3	Horizontal	346	2.94	-	40.28	30.23	4.72	35.04
AV	3.47166G	42.76	54.00	-11.24	-0.14	3	Horizontal	352	1.10	-	42.90	30.20	4.80	35.14
AV	3.90502G	41.53	54.00	-12.47	0.80	3	Horizontal	0	2.40	-	40.73	30.81	4.85	34.86
AV	4.33942G	42.93	54.00	-11.07	2.42	3	Horizontal	1	3.00	-	40.51	32.22	5.07	34.87
PK	1.30188G	40.87	74.00	-33.13	-6.79	3	Horizontal	170	1.62	-	47.66	25.92	2.70	35.41
PK	1.73545G	41.81	74.00	-32.19	-5.14	3	Horizontal	182	1.32	-	46.95	26.54	3.14	34.82
PK	2.16971G	43.47	74.00	-30.53	-1.12	3	Horizontal	357	1.64	-	44.59	30.06	3.57	34.75
PK	2.60382G	45.26	74.00	-28.74	0.07	3	Horizontal	349	2.08	-	45.19	30.80	4.21	34.94
PK	3.03695G	48.23	74.00	-25.77	-0.09	3	Horizontal	346	2.94	-	48.32	30.23	4.72	35.04
PK	3.47166G	50.80	74.00	-23.20	-0.14	3	Horizontal	352	1.10	-	50.94	30.20	4.80	35.14
PK	3.90502G	49.57	74.00	-24.43	0.80	3	Horizontal	0	2.40	-	48.77	30.81	4.85	34.86
PK	4.33942G	50.97	74.00	-23.03	2.42	3	Horizontal	1	3.00	-	48.55	32.22	5.07	34.87

ASK_Nss1_1TX

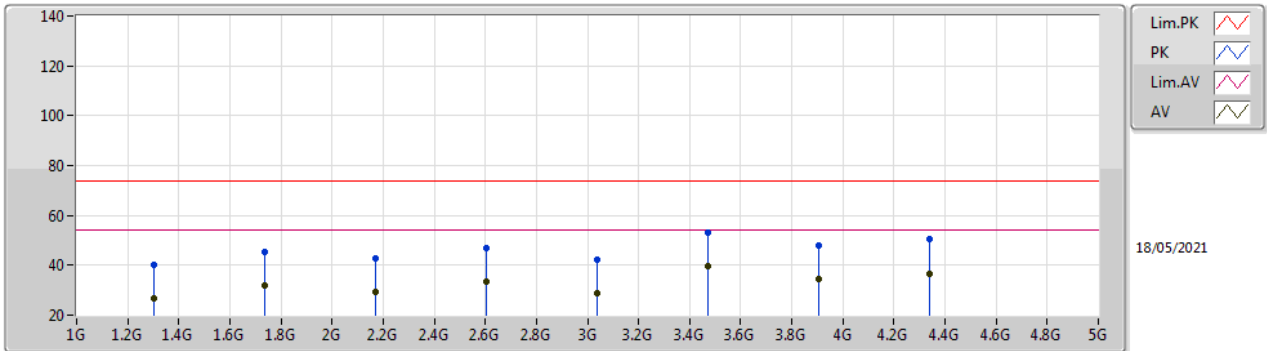
433.92MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	1.30178G	25.58	54.00	-28.42	-6.79	3	Vertical	256	1.00	-	32.37	25.92	2.70	35.41
AV	1.73586G	28.13	54.00	-25.87	-5.14	3	Vertical	81	2.84	-	33.27	26.54	3.14	34.82
AV	2.16961G	28.63	54.00	-25.37	-1.12	3	Vertical	13	1.50	-	29.75	30.06	3.57	34.75
AV	2.60368G	30.01	54.00	-23.99	0.07	3	Vertical	128	1.00	-	29.94	30.80	4.21	34.94
AV	3.03725G	29.49	54.00	-24.51	-0.09	3	Vertical	342	1.50	-	29.58	30.23	4.72	35.04
AV	3.47176G	34.12	54.00	-19.88	-0.14	3	Vertical	83	1.08	-	34.26	30.20	4.80	35.14
AV	3.90527G	31.59	54.00	-22.41	0.80	3	Vertical	236	2.85	-	30.79	30.81	4.85	34.86
AV	4.33967G	34.13	54.00	-19.87	2.42	3	Vertical	358	1.01	-	31.71	32.22	5.07	34.87
PK	1.30178G	39.13	74.00	-34.87	-6.79	3	Vertical	256	1.00	-	45.92	25.92	2.70	35.41
PK	1.73586G	41.68	74.00	-32.32	-5.14	3	Vertical	81	2.84	-	46.82	26.54	3.14	34.82
PK	2.16961G	42.18	74.00	-31.82	-1.12	3	Vertical	13	1.50	-	43.30	30.06	3.57	34.75
PK	2.60368G	43.56	74.00	-30.44	0.07	3	Vertical	128	1.00	-	43.49	30.80	4.21	34.94
PK	3.03725G	43.04	74.00	-30.96	-0.09	3	Vertical	342	1.50	-	43.13	30.23	4.72	35.04
PK	3.47176G	47.67	74.00	-26.33	-0.14	3	Vertical	83	1.08	-	47.81	30.20	4.80	35.14
PK	3.90527G	45.14	74.00	-28.86	0.80	3	Vertical	236	2.85	-	44.34	30.81	4.85	34.86
PK	4.33967G	47.68	74.00	-26.32	2.42	3	Vertical	358	1.01	-	45.26	32.22	5.07	34.87

ASK_Nss1_1TX

433.92MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	1.30181G	26.82	54.00	-27.18	-6.79	3	Horizontal	168	1.70	-	33.61	25.92	2.70	35.41
AV	1.73571G	31.72	54.00	-22.28	-5.14	3	Horizontal	177	1.38	-	36.86	26.54	3.14	34.82
AV	2.16963G	29.41	54.00	-24.59	-1.12	3	Horizontal	0	1.48	-	30.53	30.06	3.57	34.75
AV	2.60378G	33.27	54.00	-20.73	0.07	3	Horizontal	351	1.00	-	33.20	30.80	4.21	34.94
AV	3.03785G	28.89	54.00	-25.11	-0.10	3	Horizontal	359	1.49	-	28.99	30.22	4.72	35.04
AV	3.47166G	39.59	54.00	-14.41	-0.14	3	Horizontal	360	1.02	-	39.73	30.20	4.80	35.14
AV	3.90554G	34.52	54.00	-19.48	0.80	3	Horizontal	360	1.01	-	33.72	30.81	4.85	34.86
AV	4.33941G	36.77	54.00	-17.23	2.42	3	Horizontal	16	1.13	-	34.35	32.22	5.07	34.87
PK	1.30181G	40.37	74.00	-33.63	-6.79	3	Horizontal	168	1.70	-	47.16	25.92	2.70	35.41
PK	1.73571G	45.27	74.00	-28.73	-5.14	3	Horizontal	177	1.38	-	50.41	26.54	3.14	34.82
PK	2.16963G	42.96	74.00	-31.04	-1.12	3	Horizontal	0	1.48	-	44.08	30.06	3.57	34.75
PK	2.60378G	46.82	74.00	-27.18	0.07	3	Horizontal	351	1.00	-	46.75	30.80	4.21	34.94
PK	3.03785G	42.44	74.00	-31.56	-0.10	3	Horizontal	359	1.49	-	42.54	30.22	4.72	35.04
PK	3.47166G	53.14	74.00	-20.86	-0.14	3	Horizontal	360	1.02	-	53.28	30.20	4.80	35.14
PK	3.90554G	48.07	74.00	-25.93	0.80	3	Horizontal	360	1.01	-	47.27	30.81	4.85	34.86
PK	4.33941G	50.32	74.00	-23.68	2.42	3	Horizontal	16	1.13	-	47.90	32.22	5.07	34.87

3.4 Operation Restriction

3.4.1 Operation Restriction Limit

Operation Restriction Limit	
☐	Manually operated: manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 sec of being released.
☐	Activated automatically: transmitter activated automatically shall cease transmission within 5 sec after activation.
☐	Periodic transmissions: permitted with total transmission time of 2 sec per hour or less.
☒	Periodic transmissions (lower field strength): each transmission is not greater than 1 sec and the silent period between transmissions is at least 30 times the duration of the transmission but in no case less than 10 sec.

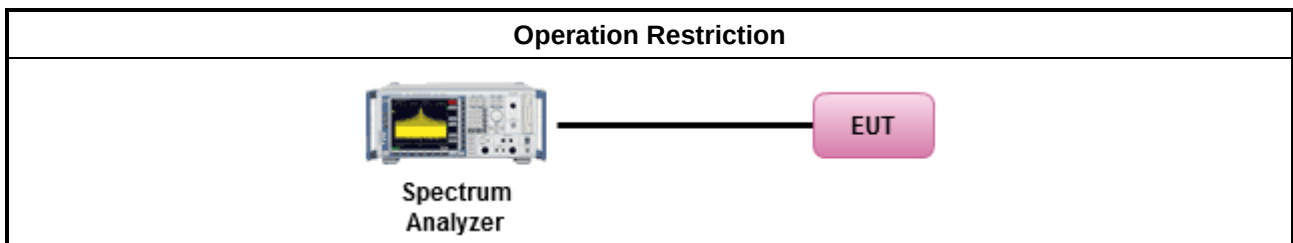
3.4.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method	
☒	Refer as ANSI C63.10, clause 7.4 for periodic operation measurement.

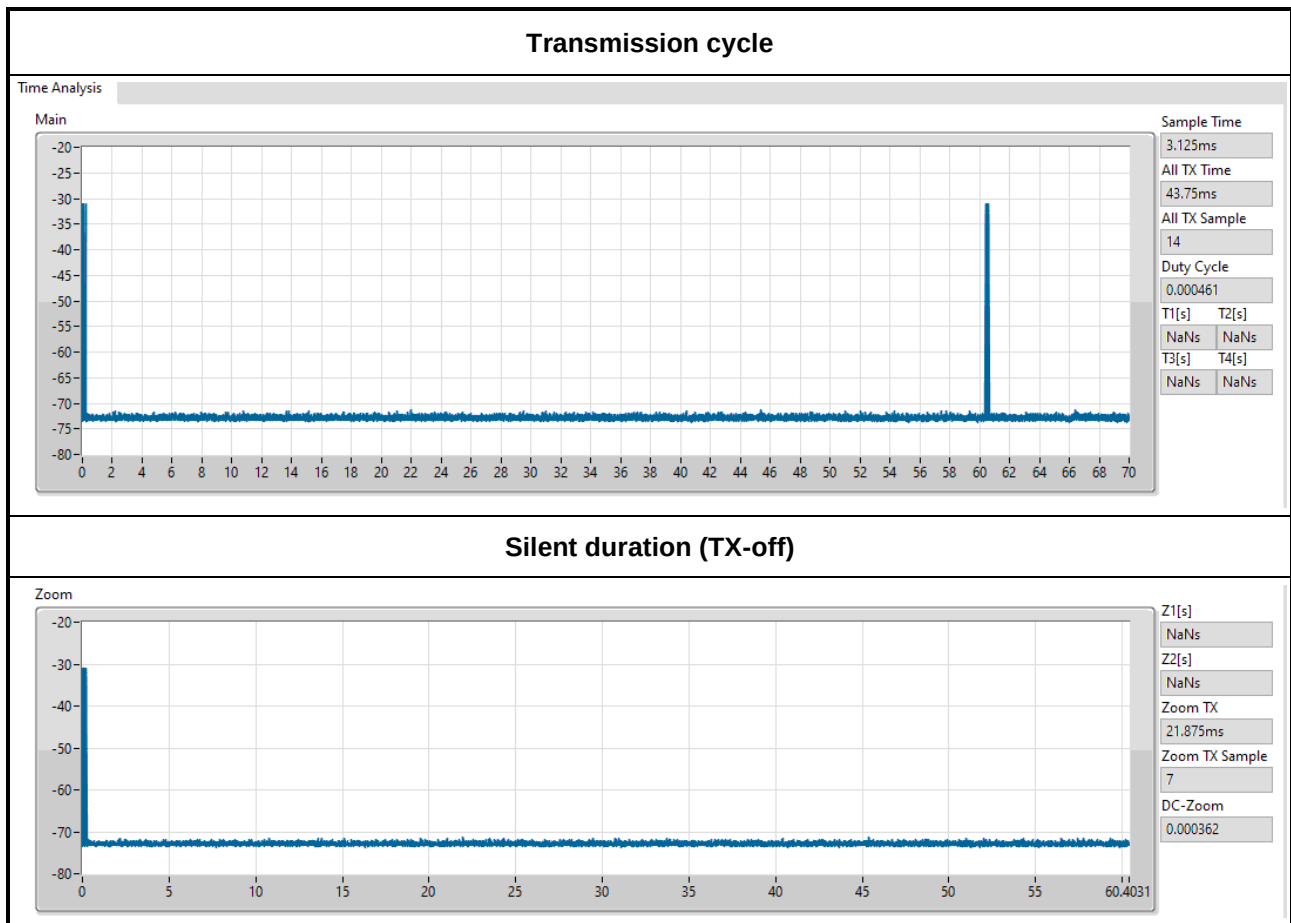
3.4.4 Test Setup



3.4.5 Test Result of Operation Restriction - 315MHz (ASK)

Operation Condition	Pulse Duration (s)	Limits (s)
Transmission time (TX-on)	0.021875	1
Silent duration (TX-off)	60.381225	10

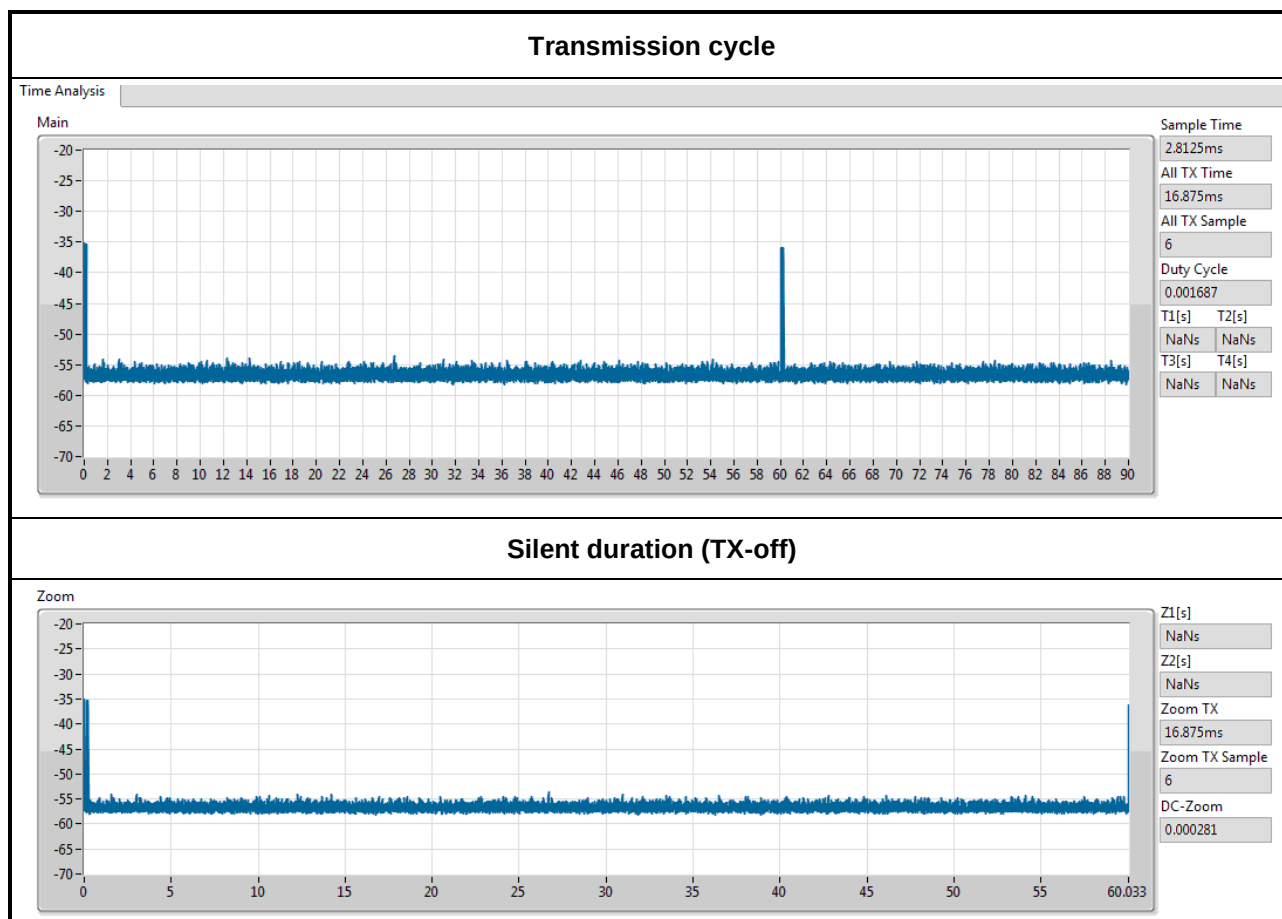
Note : 30 time limit : 0.021875 sec*30=0.656 sec



3.4.6 Test Result of Operation Restriction - 315MHz (FSK)

Operation Condition	Pulse Duration (s)	Limits (s)
Transmission time (TX-on)	0.016875	1
Silent duration (TX-off)	60.016125	10

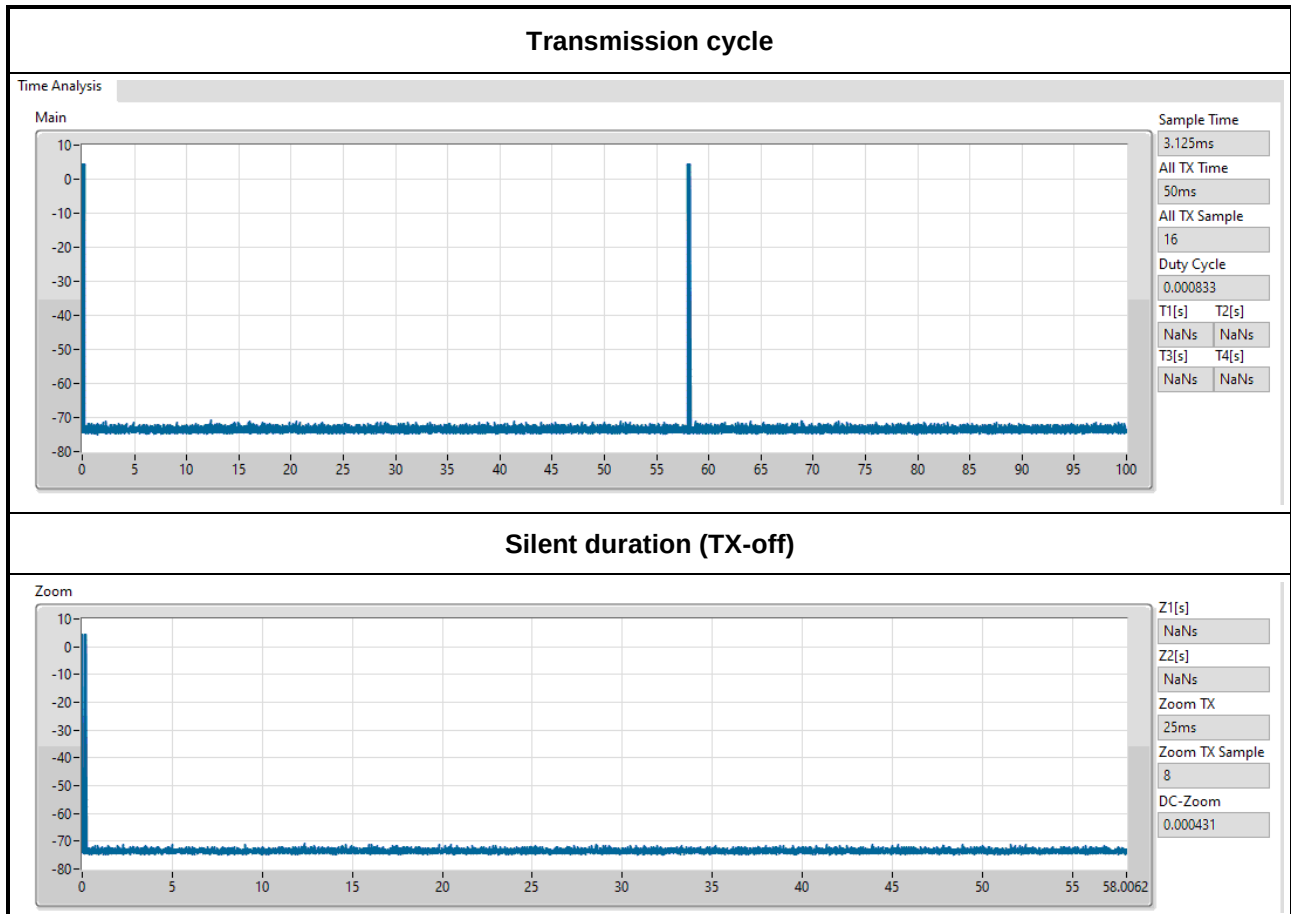
Note : 30 time limit : 0.016875 sec*30=0.506 sec



3.4.7 Test Result of Operation Restriction - 433MHz (ASK)

Operation Condition	Pulse Duration (s)	Limits (s)
Transmission time (TX-on)	0.025000	1
Silent duration (TX-off)	57.981200	10

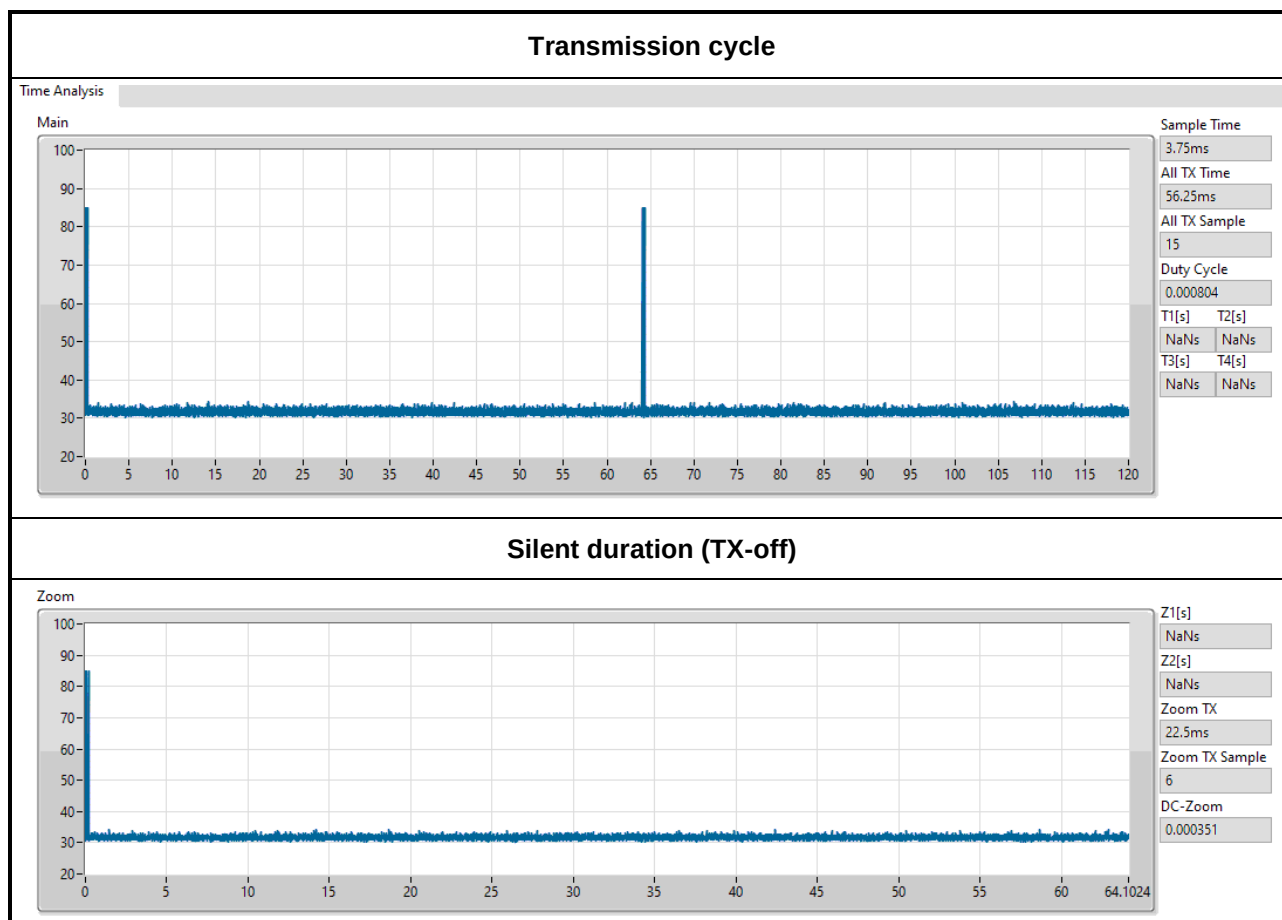
Note : 30 time limit : 0.025000 sec*30=0.750 sec



3.4.8 Test Result of Operation Restriction - 433MHz (FSK)

Operation Condition	Pulse Duration (s)	Limits (s)
Transmission time (TX-on)	0.022500	1
Silent duration (TX-off)	64.079900	10

Note : 30 time limit : $0.22500\text{sec} \times 30 = 0.675 \text{ sec}$



4 Test Equipment and Calibration Data

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101013	10Hz~40GHz	30/Mar/2021	29/Mar/2022

Instrument for Radiated Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	30MHz~1GHz 3m	26/Mar/2021	25/Mar/2022
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz~18GHz 3m	18/Mar/2021	17/Mar/2022
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200885	10Hz~44GHz	11/Aug/2020	10/Aug/2021
Amplifier	EMC	EMC9135	980232	9kHz~1GHz	12/Apr/2021	11/Apr/2022
Microwave Preamplifier	Agilent	8449B	3008A02096	1GHz~26.5GHz	24/Jul/2020	23/Jul/2021
Bilog Antenna & 5dB Attenuator	TESEQ & MTJ	CBL6111D&MTJ 6102-05	35418 & 3	30MHz~1GHz	06/Sep/2020	05/Sep/2021
Double Ridged Guide Horn Antenna	COM-POWER	AH-118	71028	1GHz~18GHz	09/Jun/2020	08/Jun/2021
RF Cable-low	Jye Bao	RG142	CB031+324530/ 4	9kHz~30MHz	03/Sep/2020	02/Sep/2021
RF Cable-low	Jye Bao	RG142	CB031+324530/ 4	30MHz~1GHz	09/Feb/2021	08/Feb/2022
RF CABLE 5m+3m+1m	HUBER+SUHNER	SUCOFLEX104	SN MY25918/4+ SN MY39478/4 + SN 324530/4	1GHz~40GHz	15/Aug/2020	14/Aug/2021
Preamplifier	MITEQ	TTA1840-35-HG	1864481	18GHz~40GHz	18/Mar/2021	17/Mar/2022
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	16/Mar/2021	15/Mar/2022
EMI Test Receiver	R&S	ESR3	102051	9kHz~3.6GHz	29/May/2020	28/May/2021